



CALIFORNIA SAFE ROADS

2020 - 2024 Strategic Highway Safety Plan

Strategic Highway Safety Plan (SHSP)
Development Outreach Meeting

Redding Region

April 12, 2019



AGENDA



8:30 – 9:15 AM: Welcome / Introductions / Overview

9:15 – 9:45 AM: Statewide Summary

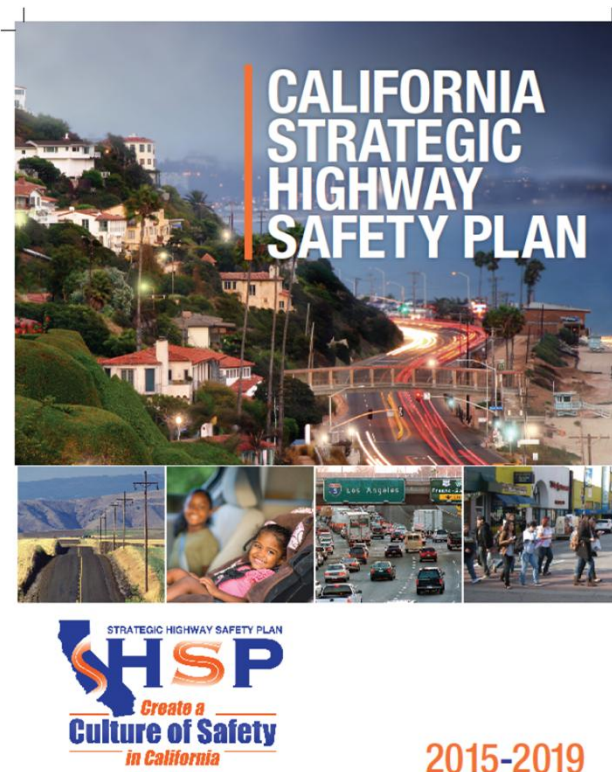
9:45 – 10:15 AM: Regional Summary

10:15 – 11:30 AM: Safety Strategy Session

11:30 – 12:00 PM: Report Out and Closing

SHSP OVERVIEW

- Guides safety activities for all roadway users
- Addresses safety on all public roads
- All agency coordinated approach
- Strategic, data-driven process
- Federal requirement
- Current SHSP covers 2015 to 2019



SHSP OVERVIEW

- Guides safety activities for all roadway users
- Addresses safety on all public roads
- All agency coordinated approach
- Strategic, data-driven process
- Federal requirement
- Current SHSP covers 2015 to 2019



2015-2019

Website: <http://www.dot.ca.gov/trafficops/shsp/>
Email: SHSP@dot.ca.gov

SHSP LOCAL AND REGIONAL BENEFITS



CALIFORNIA SAFE ROADS
2020 - 2024 Strategic Highway Safety Plan

Improve safety

- Save lives

- Reduce preventable injuries

Improve livability

- Support active transportation goals

- Improve public health

- Coordinate with congestion management efforts

Share local knowledge

- Exchange best practices

- Access information and data

- Funding and partnering opportunities

SHSP



Vision Statement

Safe Public Roads Across California.

Mission Statement

Ensure safety for all modes of travel on California's public Roads

Objective

Zero Fatalities and Serious Injuries.

MULTIPLE SAFETY APPROACHES



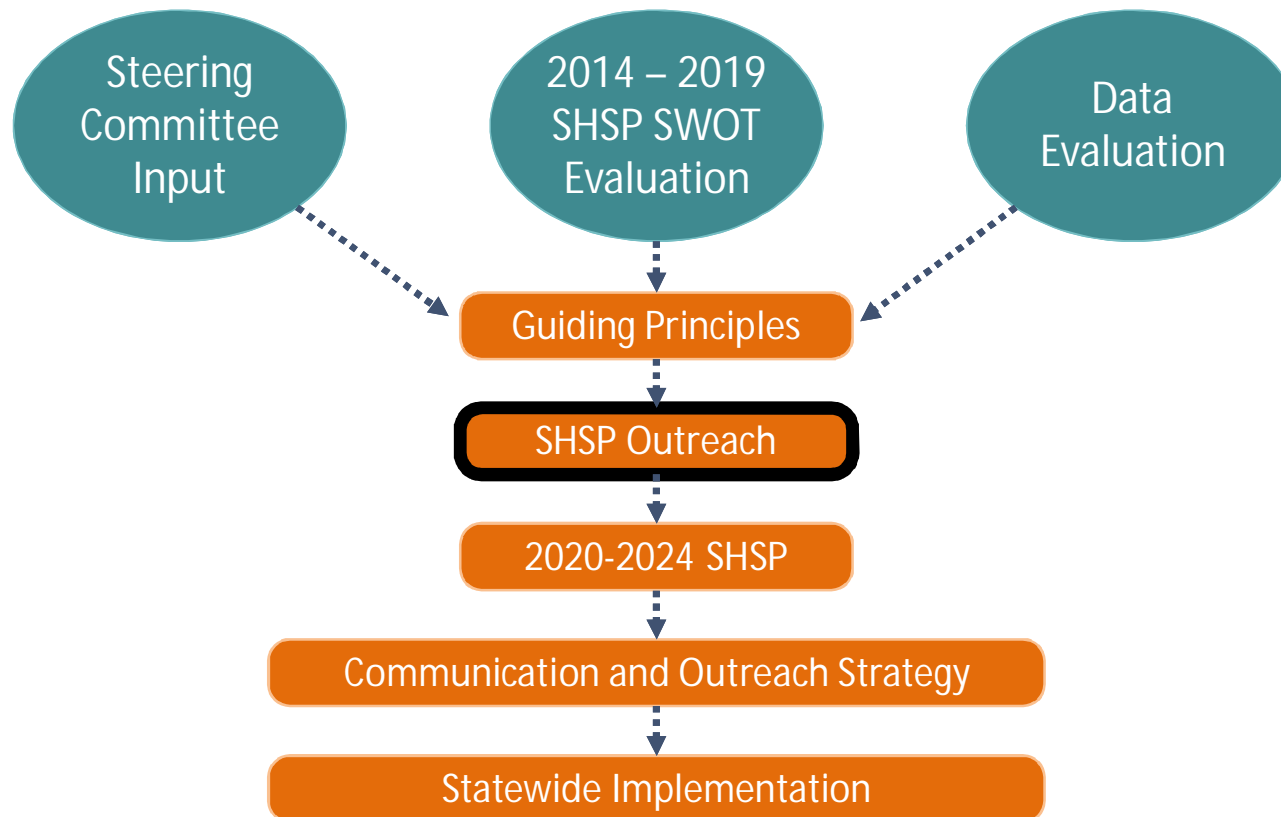
STATEWIDE COLLABORATION



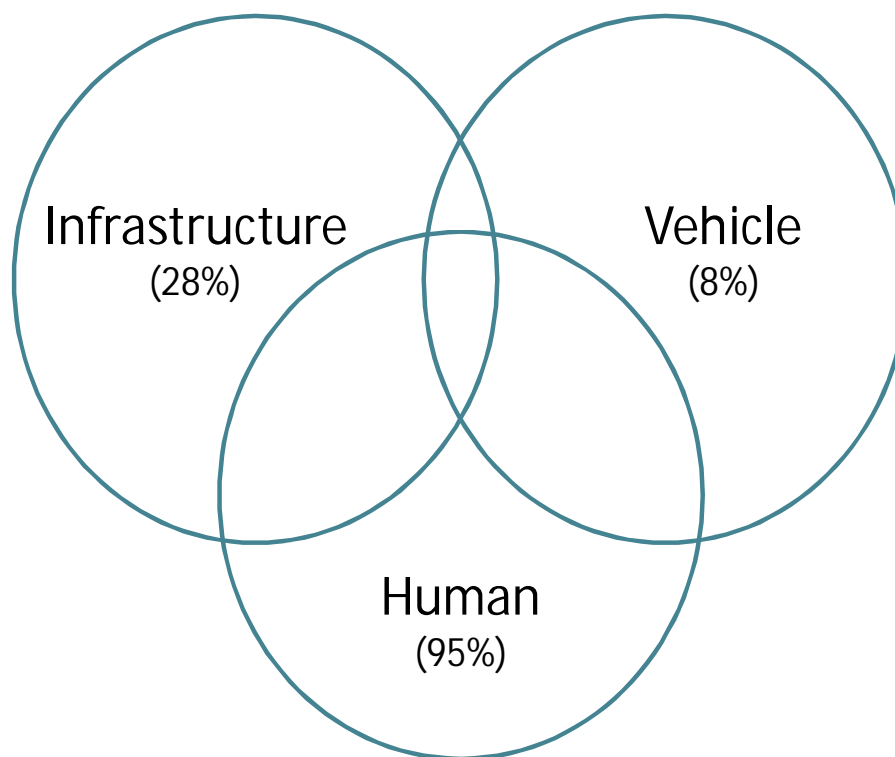
Working together
to reduce fatalities
and serious injuries on
all public roadways.



DEVELOPMENT PROCESS



COLLISION FACTORS



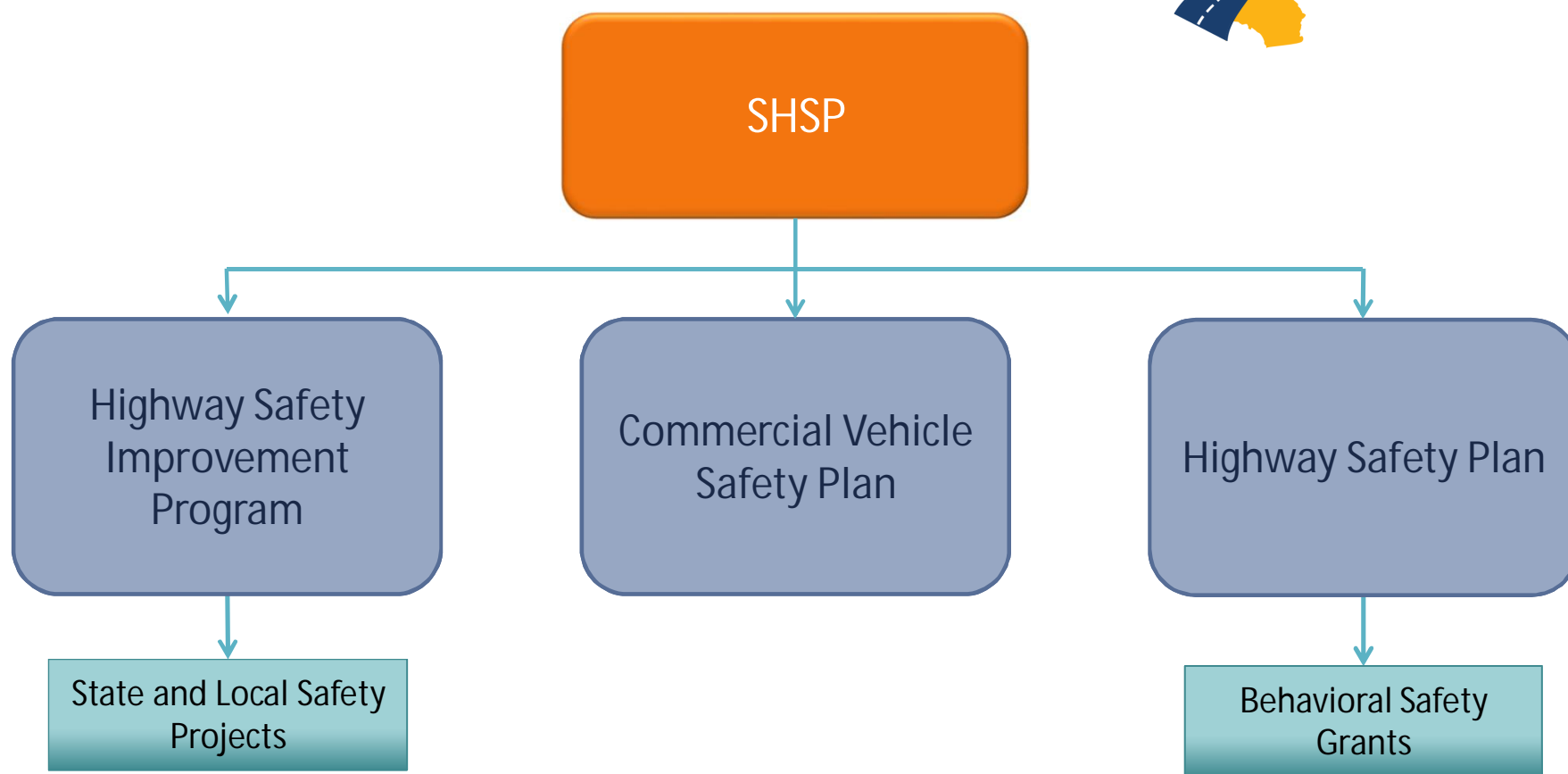
4 Es now 5 Es OF TRAFFIC SAFETY



CALIFORNIA SAFE ROADS
2020 - 2024 Strategic Highway Safety Plan



SHSP CONNECTIONS



CALTRANS HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP)



- FAST Act
 - Continues the Highway Safety Improvement Program as a core Federal Aid program to significantly reduce fatalities and serious injuries on all public roads.
 - Local HSIP Program
 - Safety Improvement Projects (Benefit/Cost selected safety projects)
 - (New) Systemic Safety Analysis Report Program (SSARP)



OFFICE OF TRAFFIC SAFETY



- Liaison with the National Highway Traffic Safety Administration (NHTSA)
- California Highway Safety Plan
- Annual Performance Report
- Grant Programs



CALIFORNIA HIGHWAY PATROL



- Mission - Provide the highest level of Safety, Service, and Security
- CHP involvement in the SHSP
 - Executive Committee - Commissioner Warren Stanley
 - Steering Committee - Assistant Chief
 - Lead or Co-lead on 10 of the 15 Challenge Areas
 - Active involvement on 13 of the 15 Challenge Areas
 - Lead or Co-lead on 25 of the Actions
 - Mileage Death Rate on the increase (2013: .94 to 2016: 1.08)
 - Work with the Office of Traffic Safety to incorporate SHSP initiatives into the CHP Grants



CALIFORNIA HIGHWAY PATROL



- Current SHSP Actions the CHP is working on
 - Action 5.1 – Update CHP DUI Checkpoint Educational Pamphlet with an emphasis on drugs
 - Action 6.1 – Develop an issue paper establishing benefits of Standardized Field Sobriety Tests (SFSTs) training for law enforcement agencies
 - Action 6.2 – Increase the number of Advanced Roadside Impaired Driving Enforcement (ARIDE) personnel trained by 8 percent
 - Action 4.1 – Develop a media campaign....to raise awareness about speeding and aggressive driving
 - Action 2.2 - Identify locations with reported pedestrian safety issues and conduct high visibility pedestrian safety enforcement operations



CALIFORNIA HIGHWAY PATROL



- Commercial Vehicle Safety Plan
 - Funded by the Motor Carrier Safety Assistance Program (MCSAP) Grant 2018-20
 - Reduce commercial motor vehicle (CMV) involved collisions within CHP jurisdiction, including the Mileage Death Rate for CMVs
 - 53 Commercial Vehicle Enforcement Facilities (38 locations)
 - 144 Mobile Road Enforcement Officers
 - CMV Fatal Crashes – 302.6 per year (5 year average)
 - MCSAP Activities: Driver and Vehicle Inspections, Enforcement, Compliance Reviews and Audits, Public Education, and Data Collection



FHWA



- SHSP is a requirement under SAFETEA-LU
- Statewide-coordinated safety plan led by State DOT that provides comprehensive framework for reducing fatalities and serious injuries on all public roads
- Identifies a State's key safety needs and guides investment decisions towards strategies and countermeasure with the most potential to save lives and prevent injuries
- SHSP shall be data driven, evaluate performance and updated
- SHSP Challenge Areas, Revisions and Stakeholders





CALIFORNIA SAFE ROADS

2020 - 2024 Strategic Highway Safety Plan

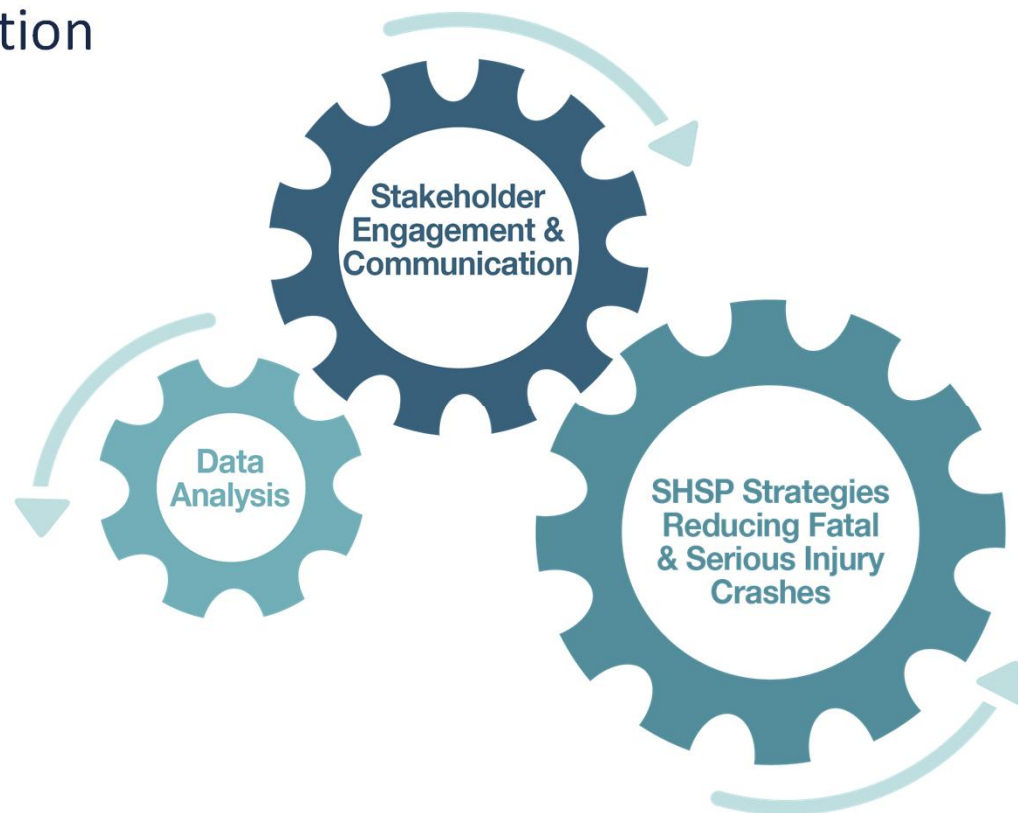
Statewide Summary



DATA-DRIVEN IMPLEMENTATION



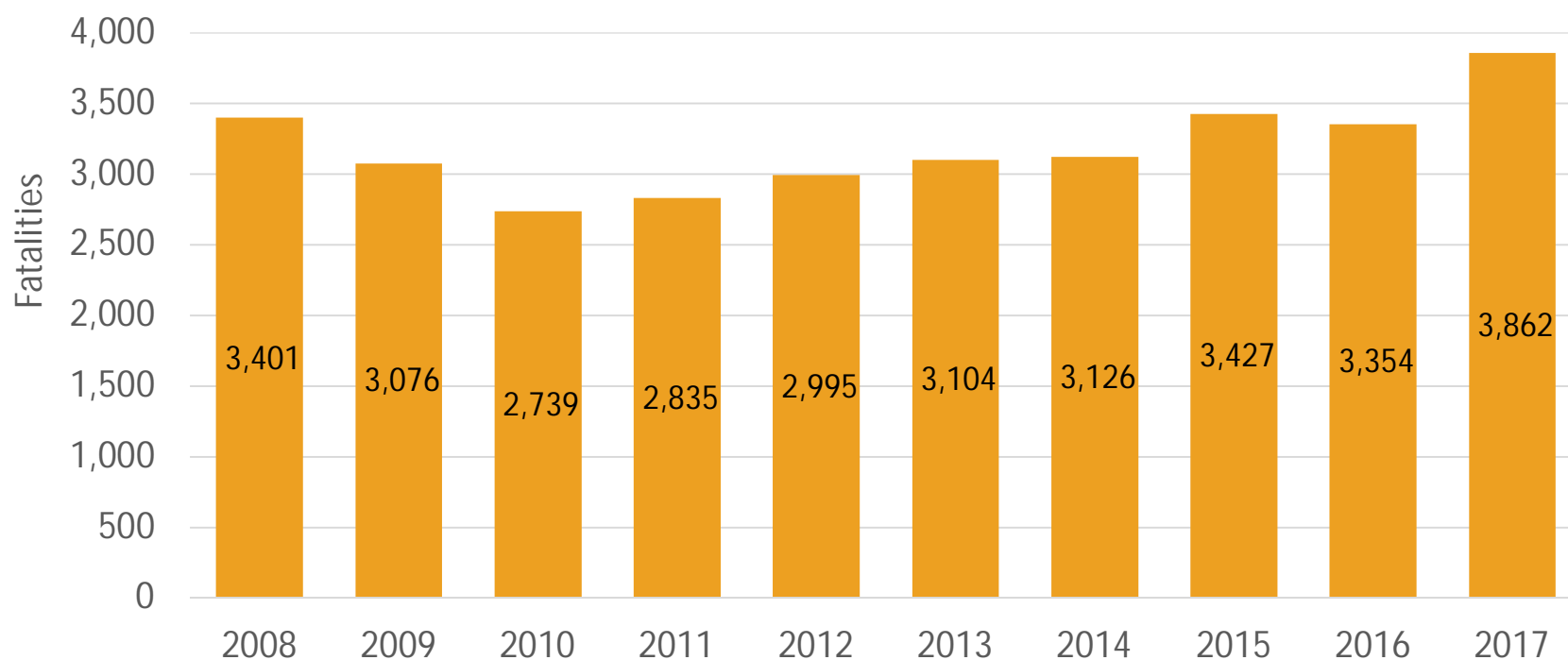
- Data analysis drives implementation
- 2020 to 2024 Data
 - 10 years (2008 to 2017)
 - 128,974 fatal and serious injury collisions
 - 147,458 fatal and serious injuries
 - 1.14 fatal and serious injuries / collision



STATEWIDE



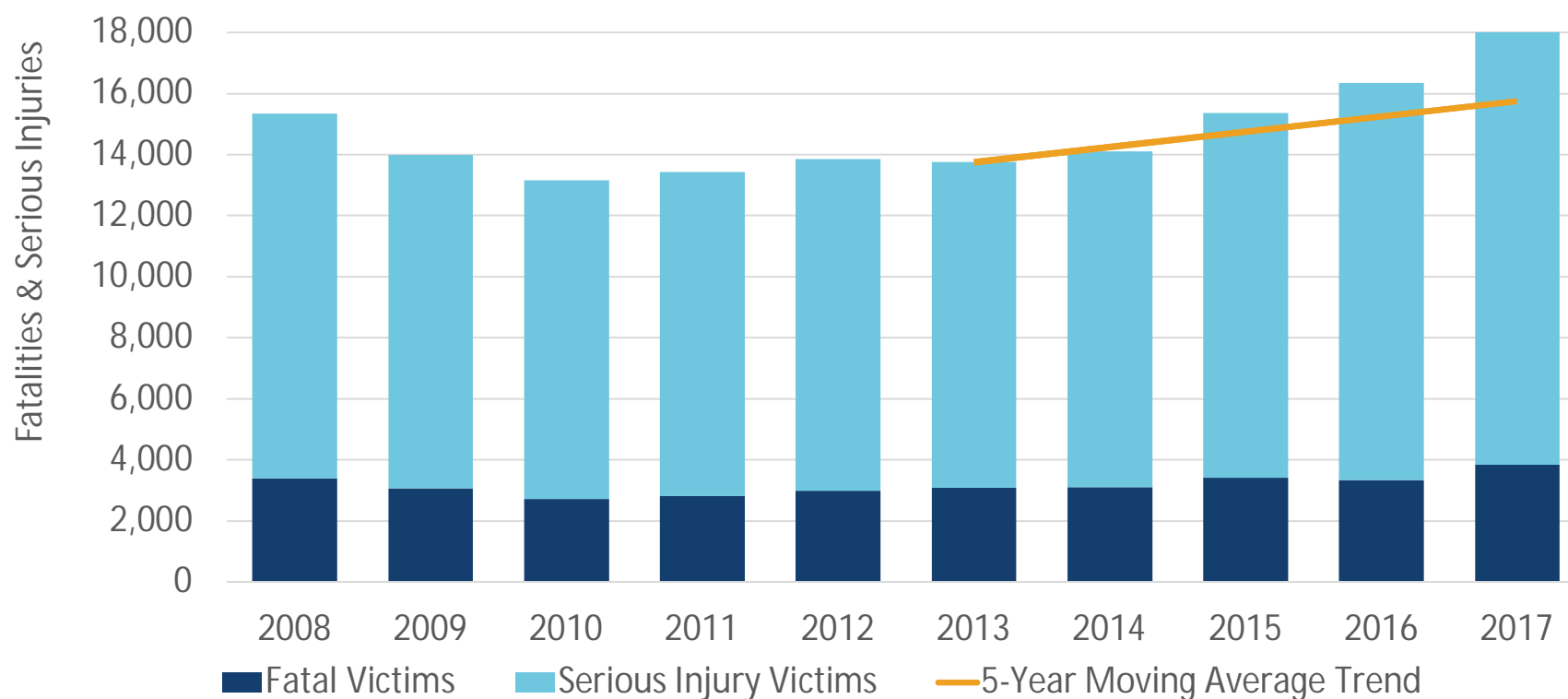
Total Fatalities by Year



STATEWIDE



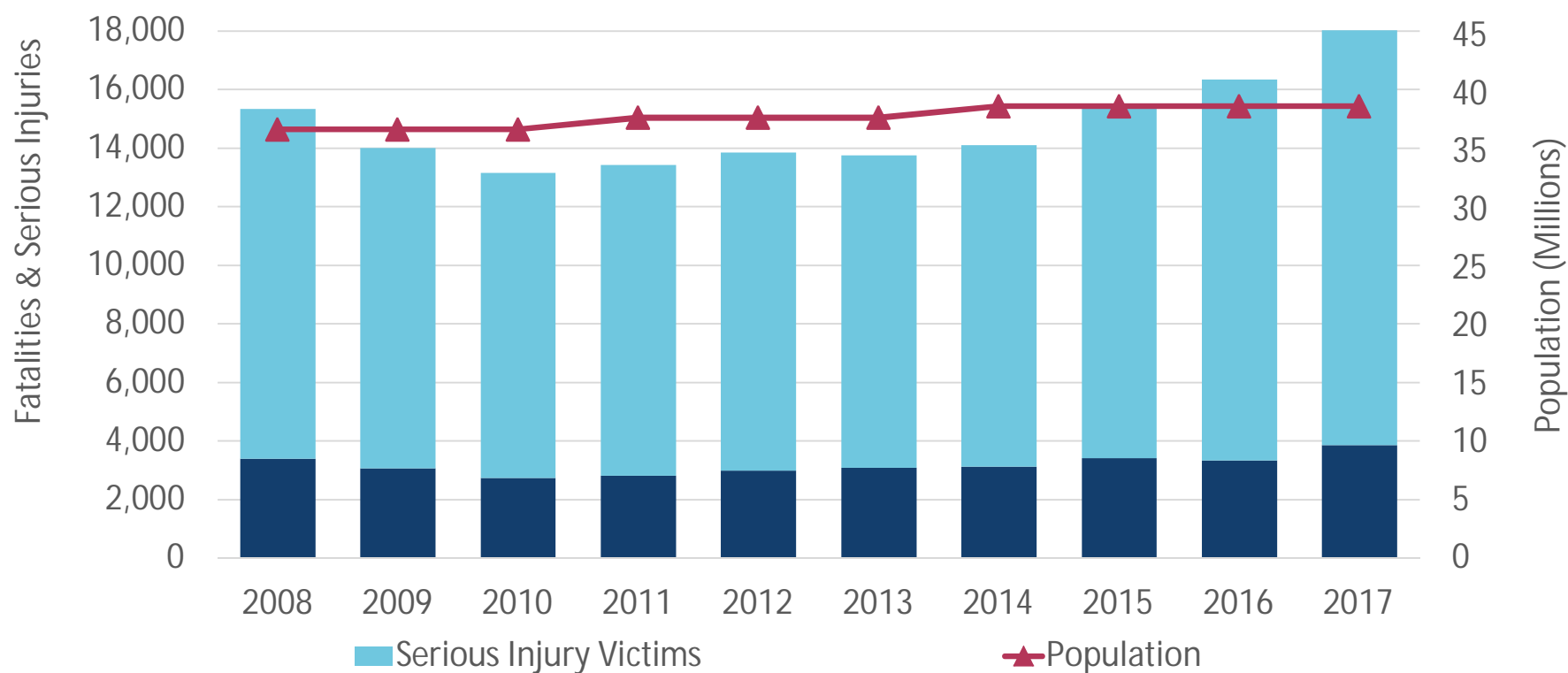
Total Fatalities and Serious Injuries by Year



STATEWIDE



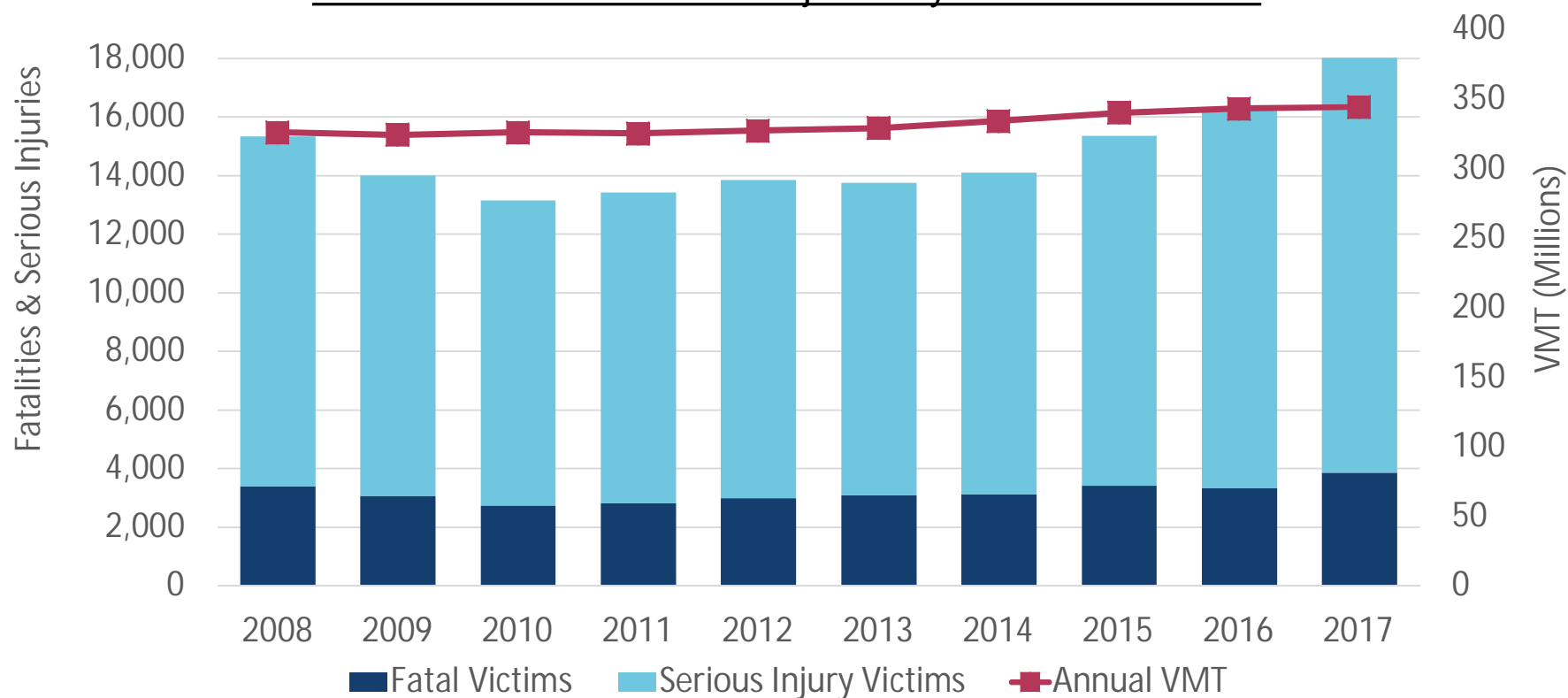
Total Fatalies and Serious Injuries by Year Versus Population



STATEWIDE



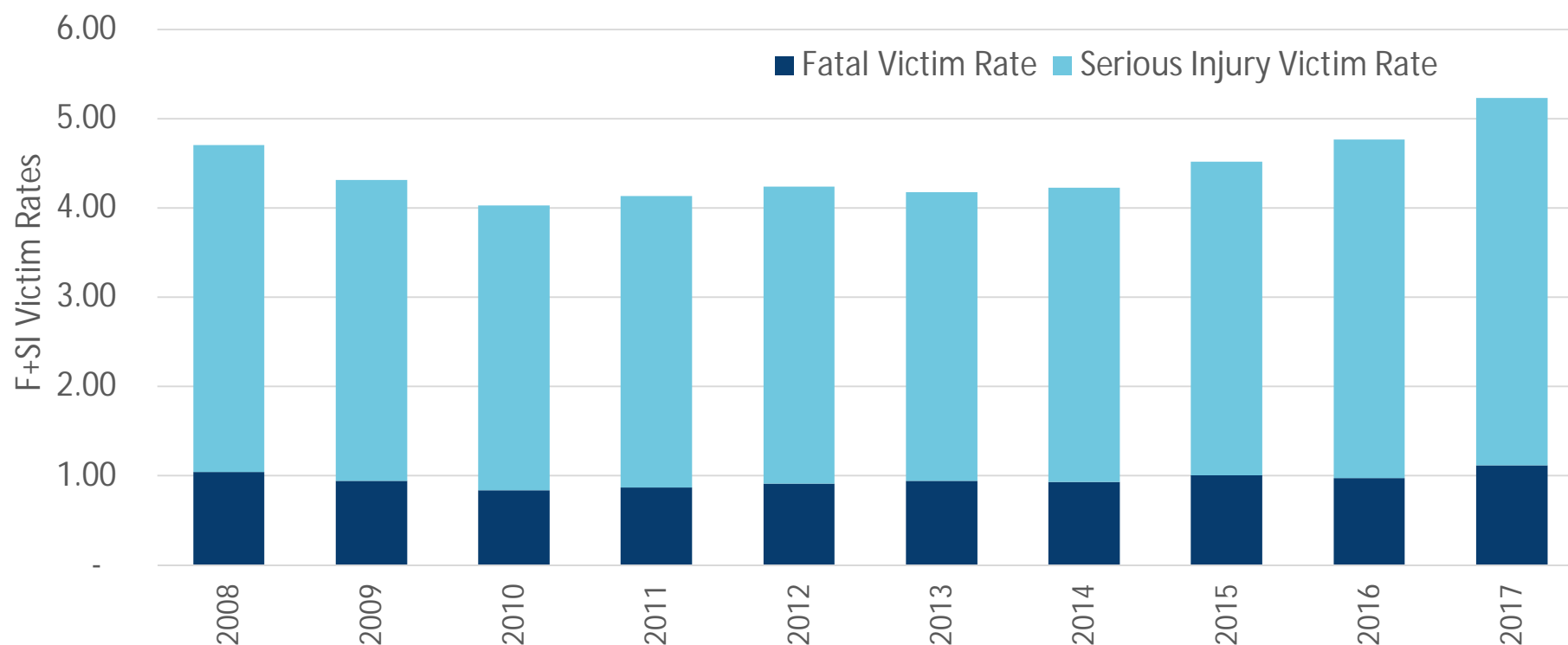
Total Fatalies and Serious Injuries by Year Versus VMT



STATEWIDE



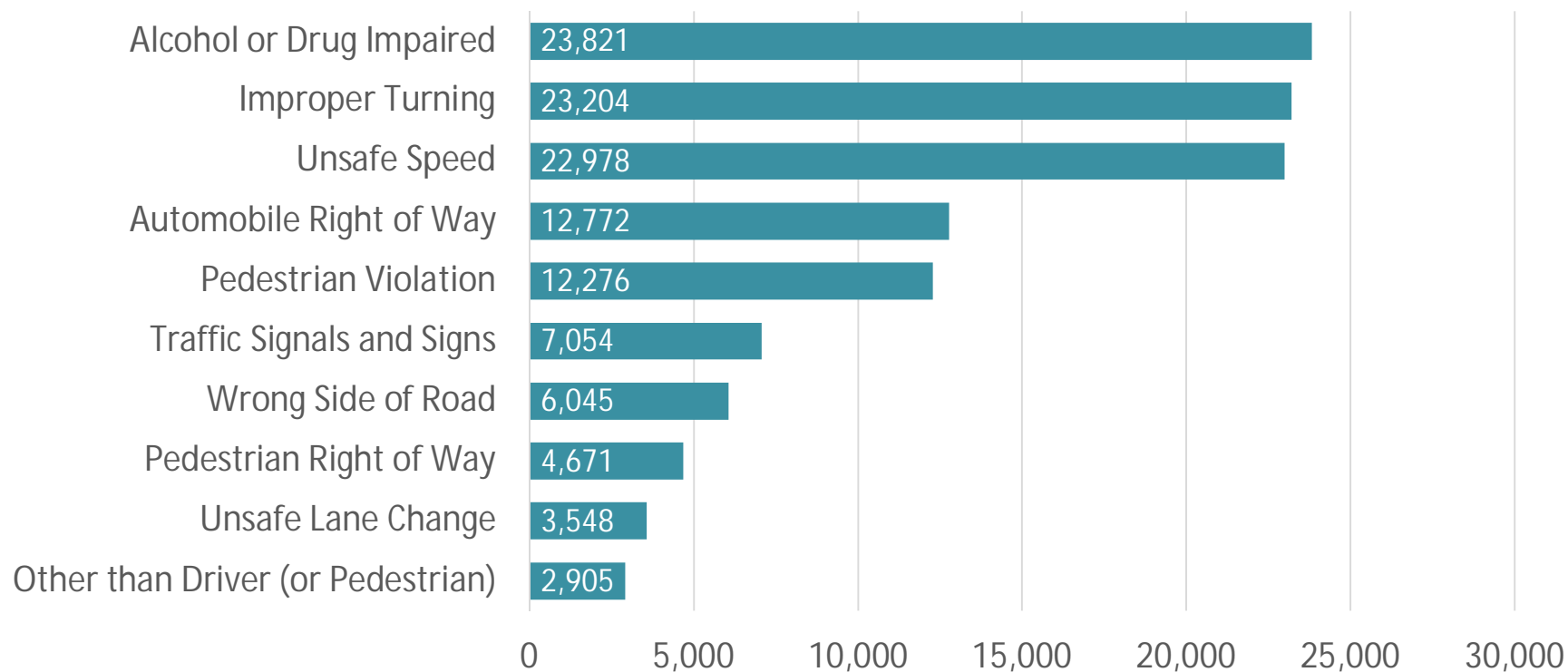
Fatality & Serious Injury Rates



STATEWIDE



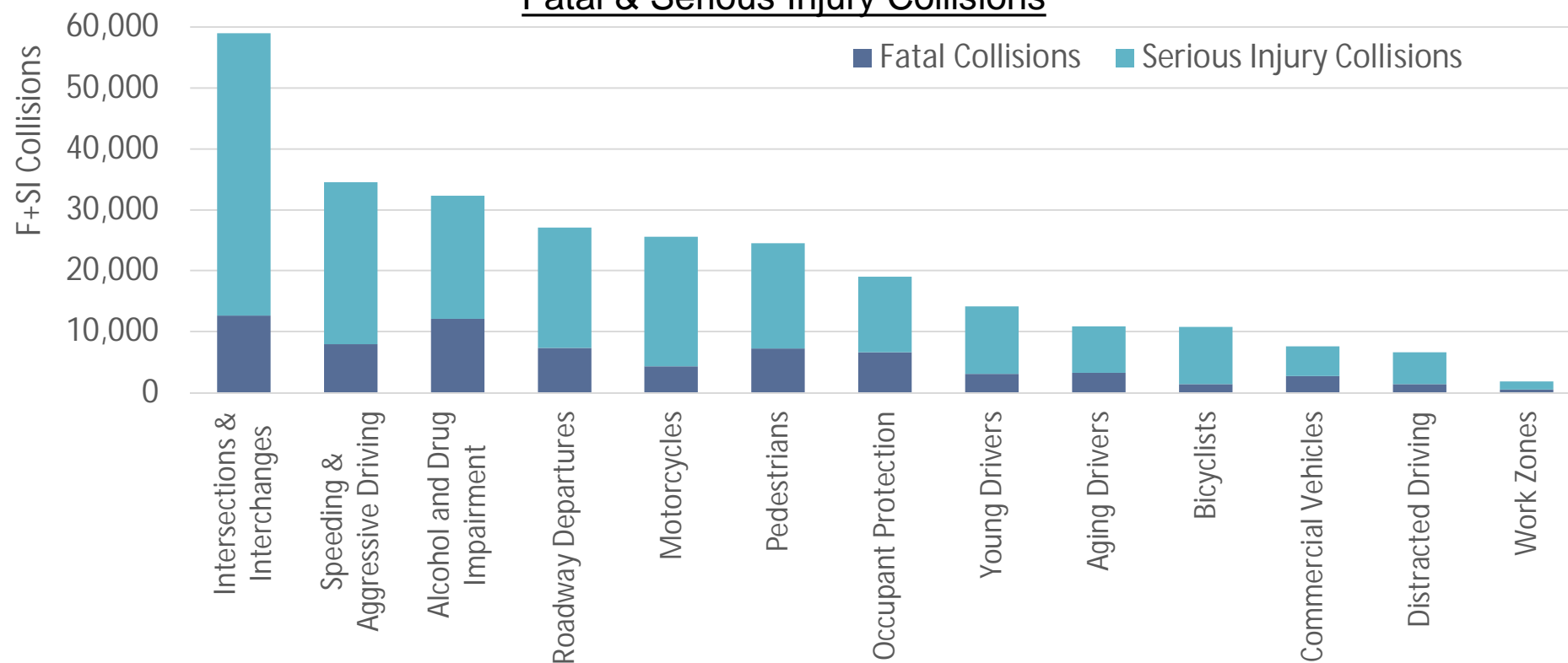
Fatal & Serious Injury Collisions by Primary Cause



STATEWIDE



Fatal & Serious Injury Collisions



STATEWIDE



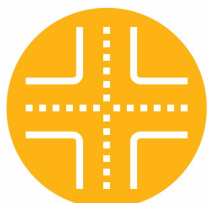
Fatal and Serious Injury Collision Rankings

Category	Fatal and Serious Injury			Fatal Only		Serious Injury Only	
	Rank	%	% Change	Rank	%	Rank	%
Intersections, Interchanges, and Other Roadway Access	1	45.7 %	↑ 0.14%	1	43.2 %	1	46.5 %
Speeding and Aggressive Driving	2	26.8 %	↑ 2.24%	3	27.4 %	2	26.7 %
Alcohol and Drug Impairment	3	25.1 %	-4.91% ↓	2	41.4 %	4	20.3 %
Driver Licensing and Competency (Fatal only)	4*	24.5 %*	↑ 2.04%	6	24.5 %*	*	*
Roadway Departures and Head-On Collisions	5	21.0 %	-1.52% ↓	4	25.0 %	5	19.9 %
Motorcycles	6	19.9 %	↑ 2.04%	8	14.8 %	3	21.4 %
Pedestrians	7	19.0 %	↑ 0.85%	5	24.9 %	6	17.3 %
Occupant Protection	8	14.8 %	-2.18% ↓	7	22.6 %	7	12.5 %
Young Drivers	9	11.0 %	-1.20% ↓	10	10.6 %	8	11.2 %
Aging Drivers	10	8.5 %	↑ 1.65%	9	11.3 %	10	7.6 %
Bicycling	11	8.4 %	-0.40% ↓	12	4.8 %	9	9.4 %
Commercial Vehicles	12	5.9 %	-2.65% ↓	11	9.5 %	12	4.9 %
Distracted Driving	13	5.2 %	-0.20% ↓	13	4.8 %	11	5.3 %
Work Zones	14	1.5 %	↑ 0.08%	14	1.8 %	13	1.4 %

STATEWIDE



CALIFORNIA SAFE ROADS
2020 - 2024 Strategic Highway Safety Plan



Intersections, Interchanges,
and Other Roadway Access

43%



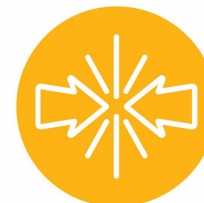
Alcohol and Drug
Impairment

42%



Speeding and
Aggressive Driving

28%



Roadway Departure
& Head-on Collisions

26%



Driver Licensing and
Competency

25%



Pedestrians

23%



Occupant Protection

19%



Aging Drivers

14%



Motorcycles

14%



Young Drivers

13%



Commercial Vehicles

10%



Distracted Driving

5%



Bicycling

4%



Work Zone

2%

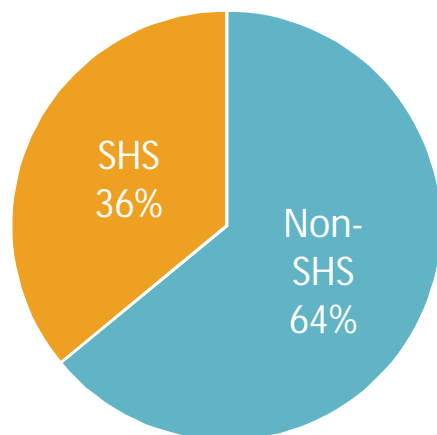
Percent of
total fatalities

STATEWIDE

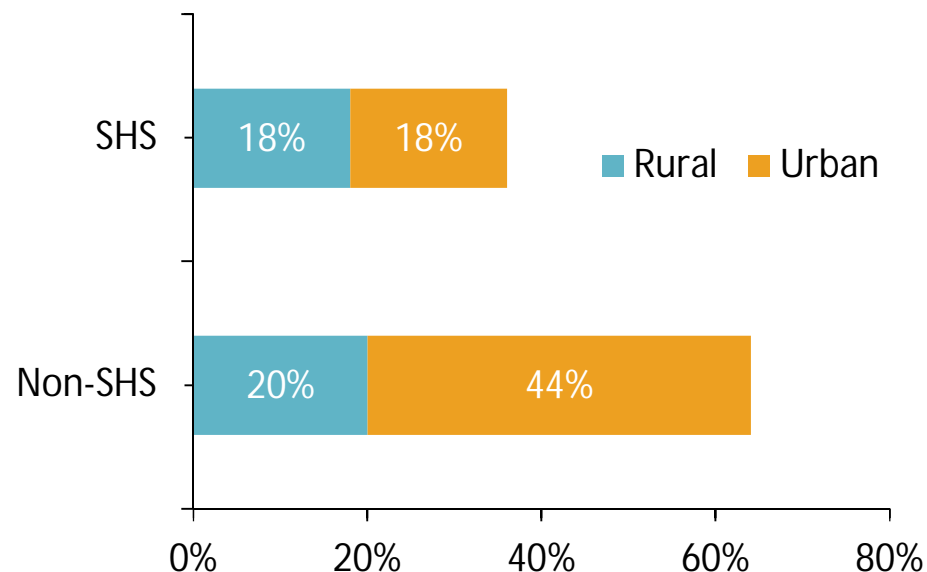
Fatal & Serious Injury Collisions



State Highway System (SHS) vs. Non-SHS

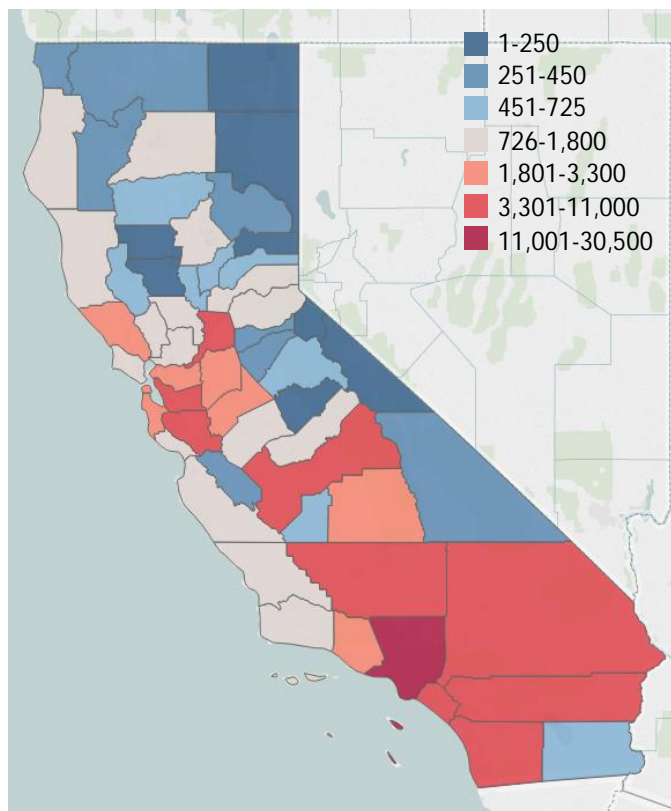


Percent of Victims by Location

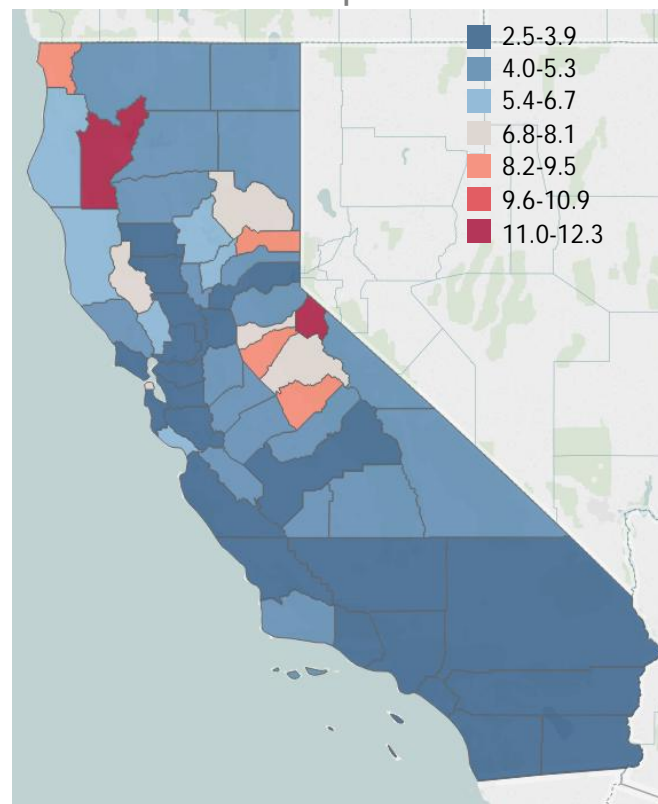


STATEWIDE

F+SI Collisions



F+SI Collision Rate per 100M VMT





CALIFORNIA SAFE ROADS

2020 - 2024 Strategic Highway Safety Plan

Redding Region Summary



OUTREACH EVENTS



CALIFORNIA SAFE ROADS

2020 - 2024 Strategic Highway Safety Plan

Join us at one of the following locations to collaborate on eliminating fatalities and serious injuries on all roadways in California.

- April 10 // Sacramento**
- April 11 // San Francisco Bay Area**
- April 12 // Redding**
- April 23 // San Diego**
- April 24 // Greater Los Angeles Area**
- April 25 // Fresno**

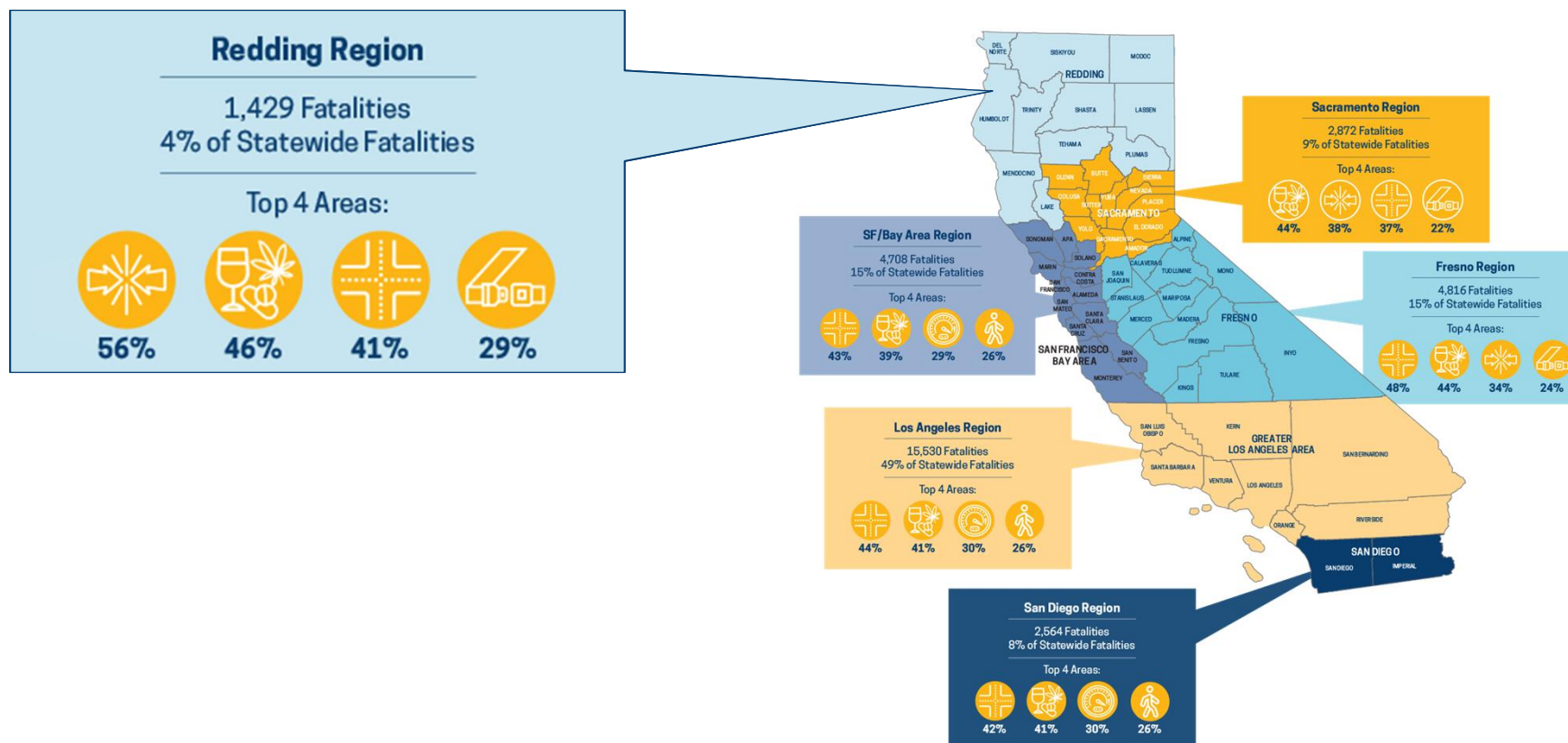
Email Ca-SHSP@Kimley-Horn.com for more information.

Website: <http://www.dot.ca.gov/trafficops/shsp/>
Email: SHSP@dot.ca.gov

REGIONAL COLLISION DATA



CALIFORNIA SAFE ROADS
2020 - 2024 Strategic Highway Safety Plan



Website: <http://www.dot.ca.gov/trafficops/shsp/>
Email: SHSP@dot.ca.gov

REDDING REGION



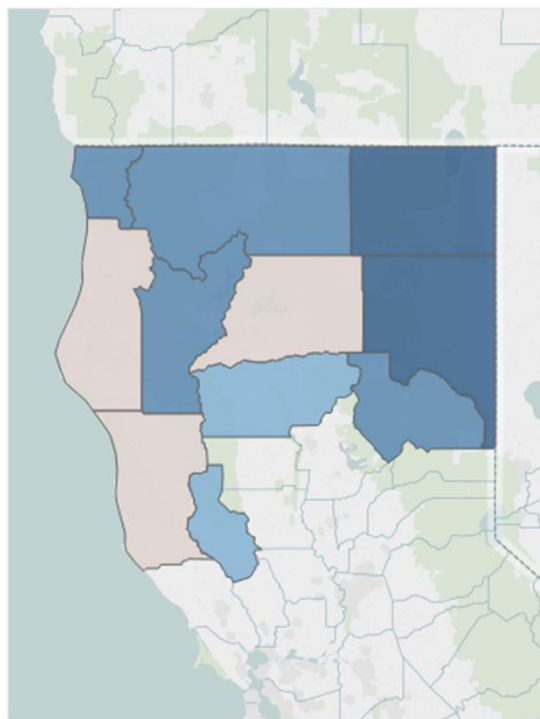
11 Counties

- Del Norte
- Humboldt
- Lake
- Lassen
- Mendocino
- Modoc
- Plumas
- Shasta
- Siskiyou
- Tehama
- Trinity

REGIONAL COLLISION DATA

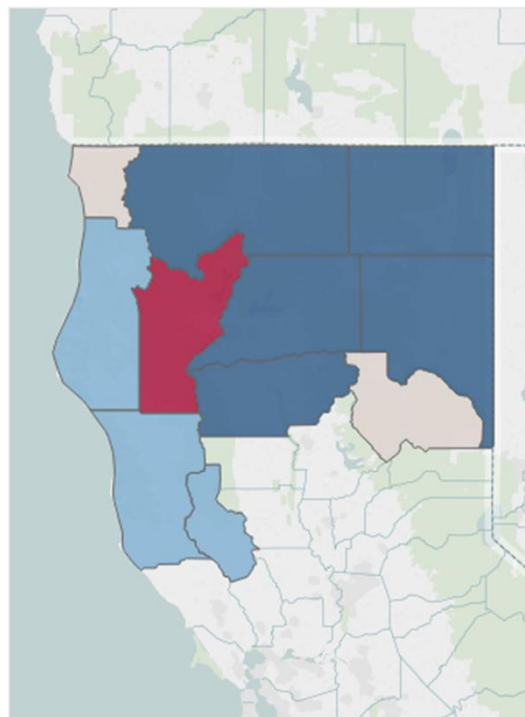


F+SI by County



County	F+SI
Modoc	90
Lassen	221
Del Norte	251
Trinity	265
Plumas	276
Siskiyou	402
Tehama	463
Lake	519
Mendocino	867
Humboldt	1,012
Shasta	1,019

F+SI per 100M VMT by County

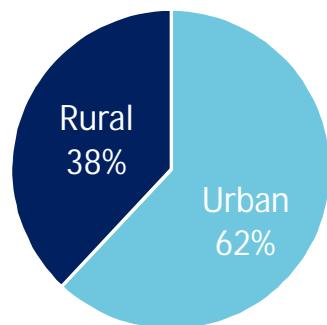


County	F+SI per 100M VMT
Lassen	4.0
Siskiyou	4.1
Modoc	4.2
Tehama	4.6
Shasta	4.9
Humboldt	6.6
Mendocino	6.6
Lake	7.2
Plumas	7.7
Del Norte	8.5
Trinity	12.3

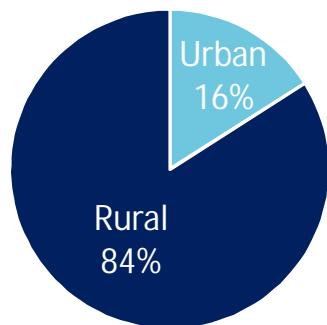
REGIONAL COLLISION DATA

Population

Statewide:



Redding Region:



F+SI collisions occurred more in rural areas in this region than California overall.

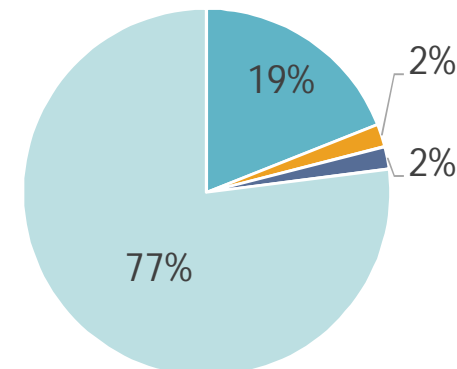


CALIFORNIA SAFE ROADS
2020 - 2024 Strategic Highway Safety Plan

Location Type

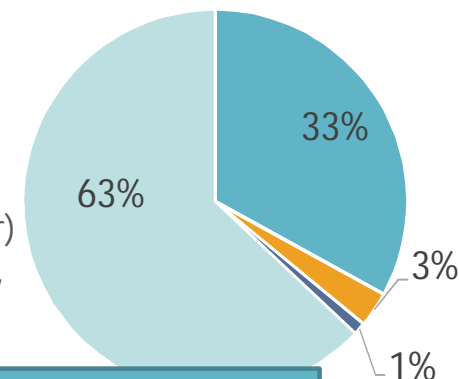
Statewide:

- Highway
- Intersection
- Ramp (or Collector)
- Not State Highway



Redding Region:

- Highway
- Intersection
- Ramp (or Collector)
- Not State Highway

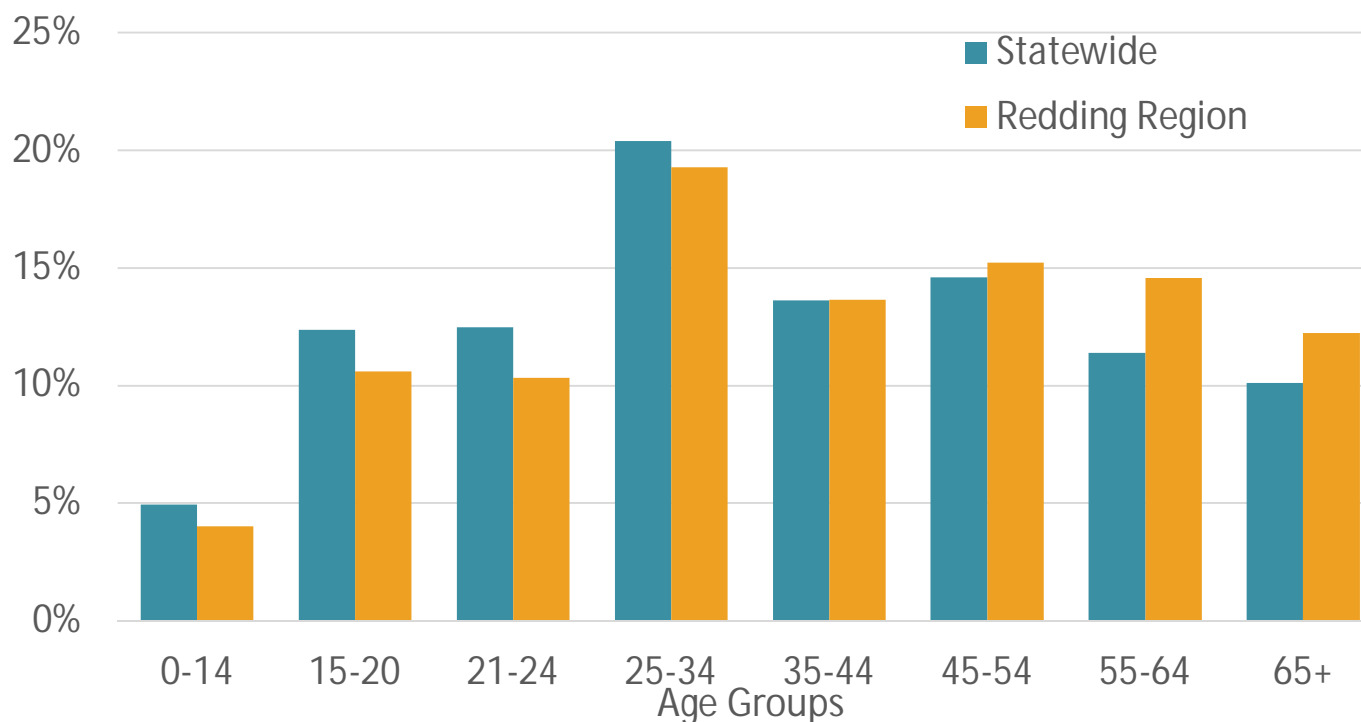


F+SI collisions occurred on less State Highways in this region as California overall.

REGIONAL COLLISION DATA



Fatal & Serious Injury Victims by Age

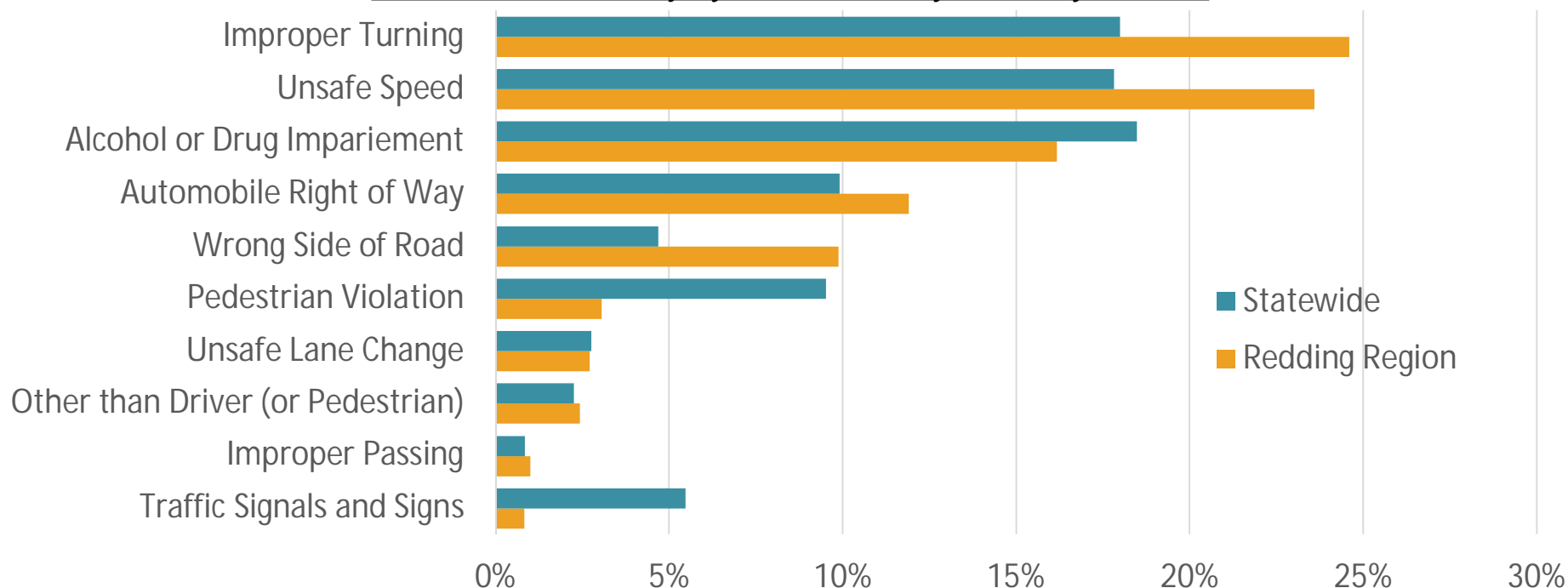


F+SI collisions involved more people aged 45+ in this region than California overall.

REGIONAL COLLISION DATA



Fatal & Serious Injury Collisions by Primary Cause

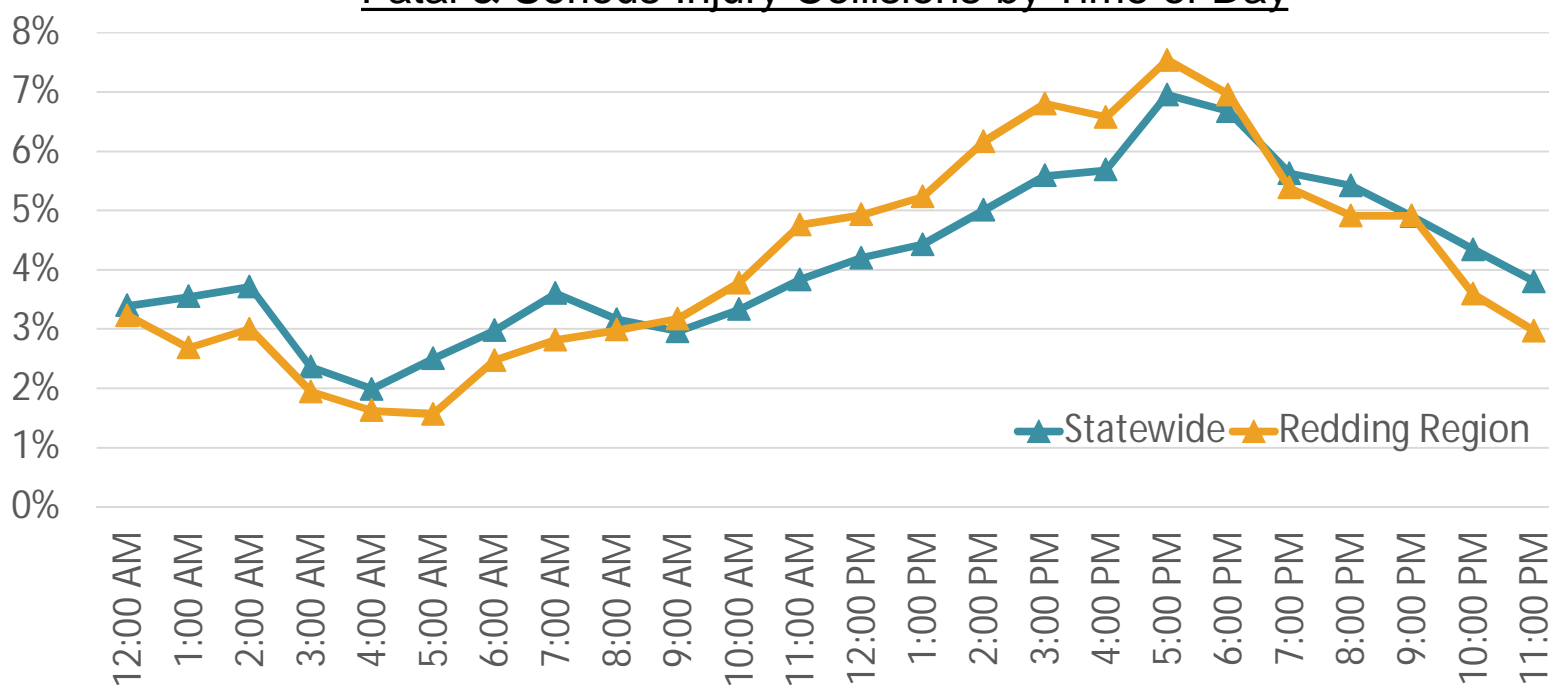


More wrong side of road collisions and less traffic signal collisions occurred in this region than California overall

REGIONAL COLLISION DATA



Fatal & Serious Injury Collisions by Time of Day

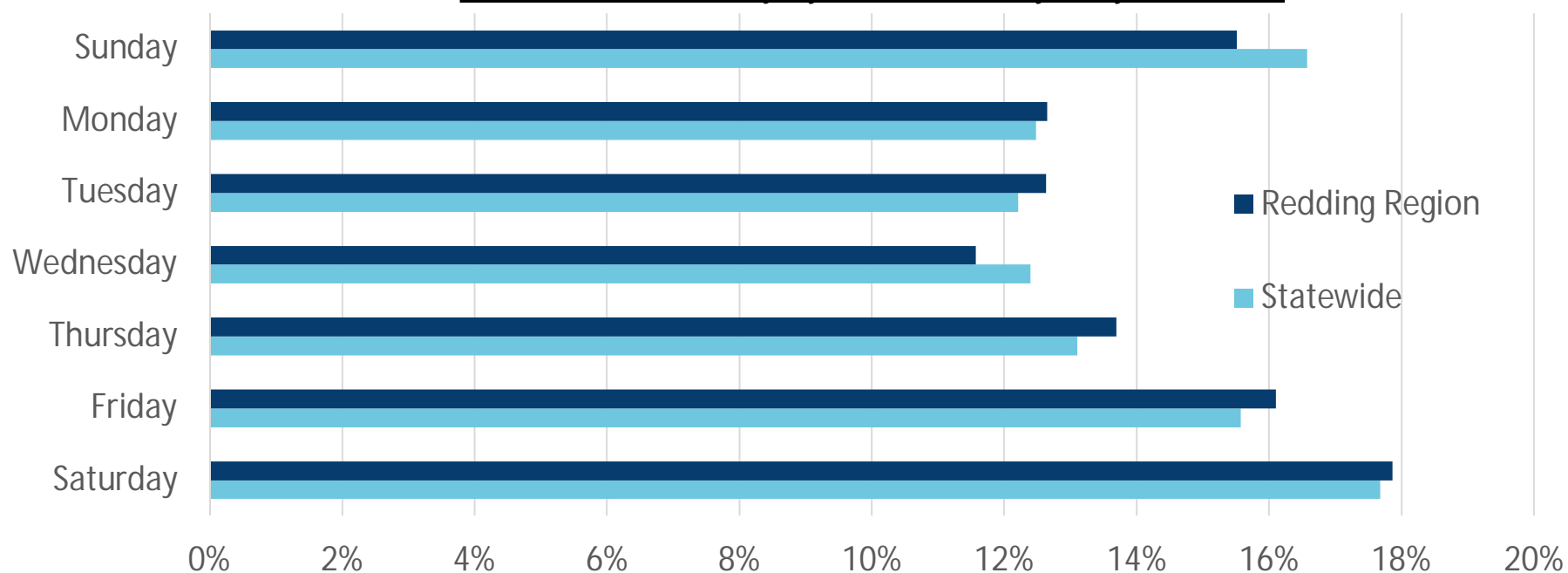


More collisions occurred between 10:00 AM and 6:00 PM in this region than California overall.

REGIONAL COLLISION DATA



Fatal & Serious Injury Collisions by Day of Week

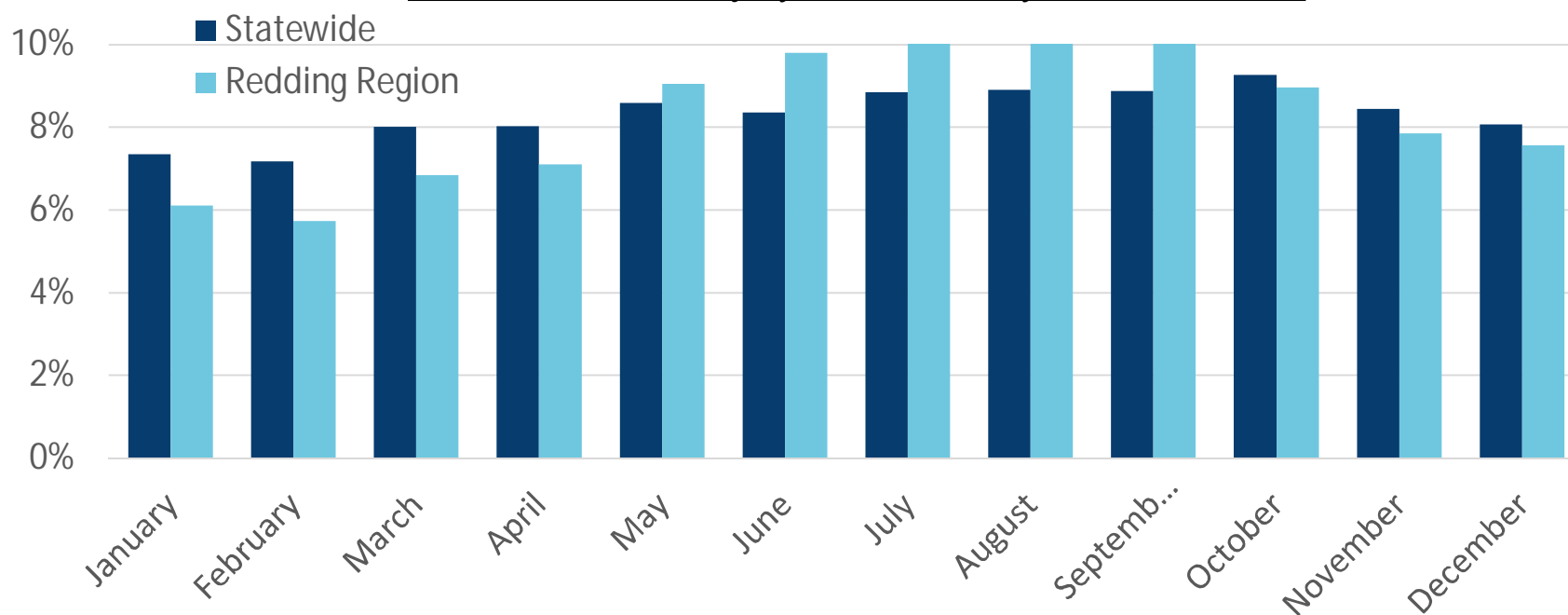


Trends were similar in this region to California overall.

REGIONAL COLLISION DATA



Fatal & Serious Injury Collisions by Month of Year



More collisions occurred in summer months and less in winter months in this region than California overall.

COLLISIONS OVERVIEW



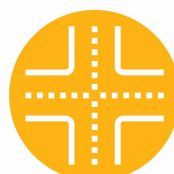
CALIFORNIA SAFE ROADS
2020 - 2024 Strategic Highway Safety Plan



Alcohol and Drug Impairment
Statewide: 42%
Redding Region: 44%



Roadway Departure
Statewide: 26%
Redding Region : 38%
Higher



Intersections & Interchanges
Statewide: 43%
Redding Region: 37%
Lower



Speeding and Aggressive Driving
Statewide: 28%
Redding Region: 26%



Driver Licensing and Competency
Statewide: 25%
Redding Region: 24%



Occupant Protection
Statewide: 19%
Redding Region 22%



Pedestrians
Statewide: 23%
Redding Region : 19%
Lower



Aging Drivers
Statewide: 14%
Redding Region: 16%



Young Drivers
Statewide: 13%
Redding Region: 14%



Motorcycles
Statewide: 14%
Redding Region: 13%



Commercial Vehicles
Statewide: 10%
Redding Region: 9%



Bicycling
Statewide: 4%
Redding Region: 5%



Distracted Driving
Statewide: 5%
Redding Region: 4%

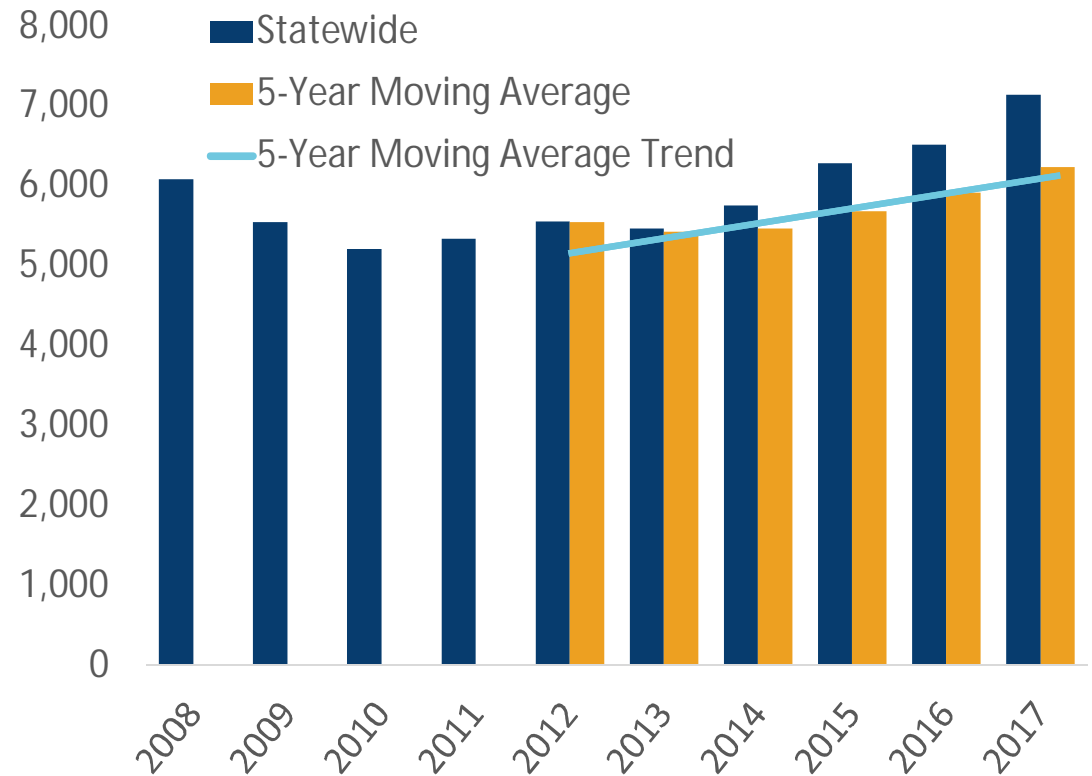
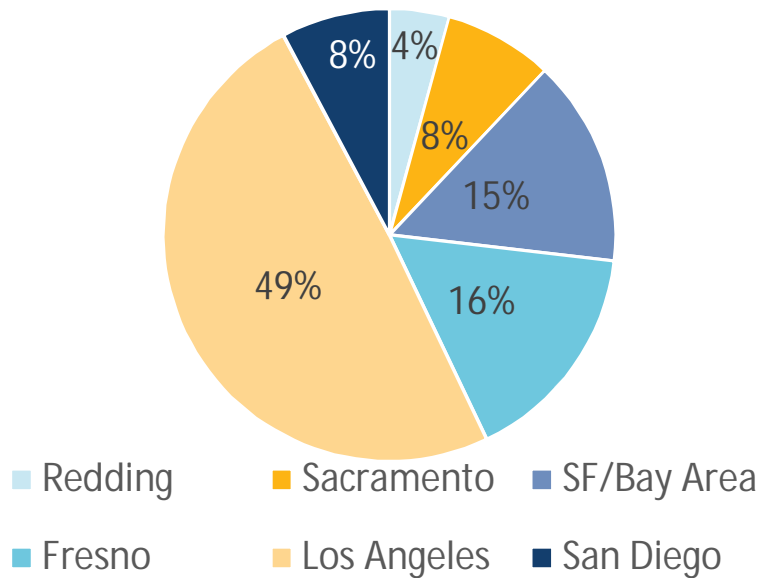
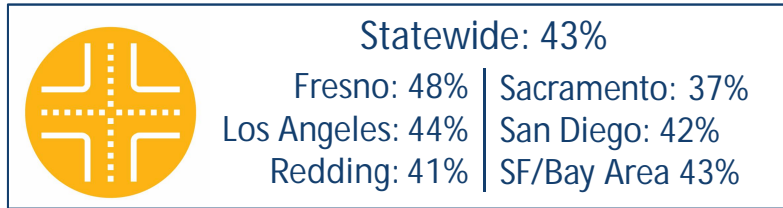


Work Zone
Statewide: 2%
Redding Region: 2%

**Percent of
total fatalities**

Website: <http://www.dot.ca.gov/trafficops/shsp/>
Email: SHSP@dot.ca.gov

INTERSECTIONS & INTERCHANGES



ALCOHOL & DRUG IMPAIRMENT

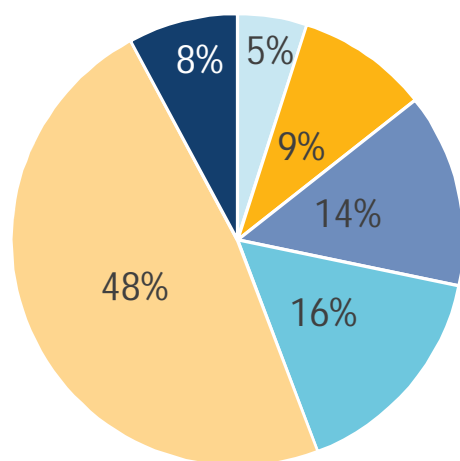


CALIFORNIA SAFE ROADS
2020 - 2024 Strategic Highway Safety Plan

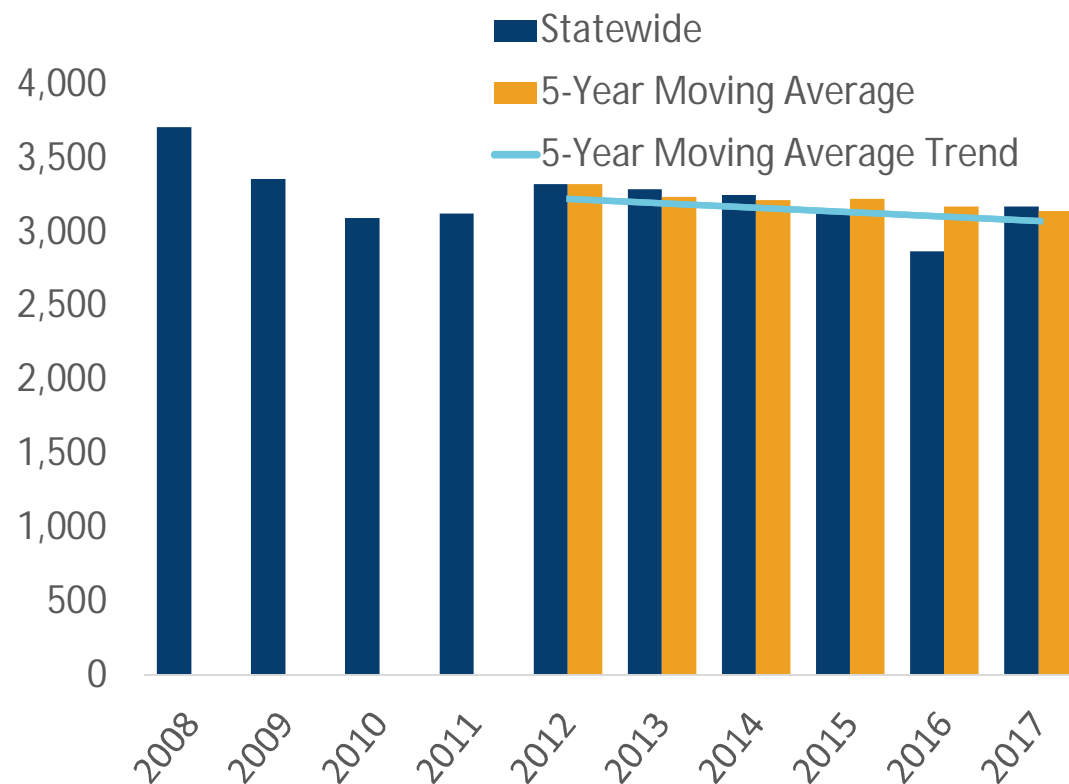


Statewide: 42%

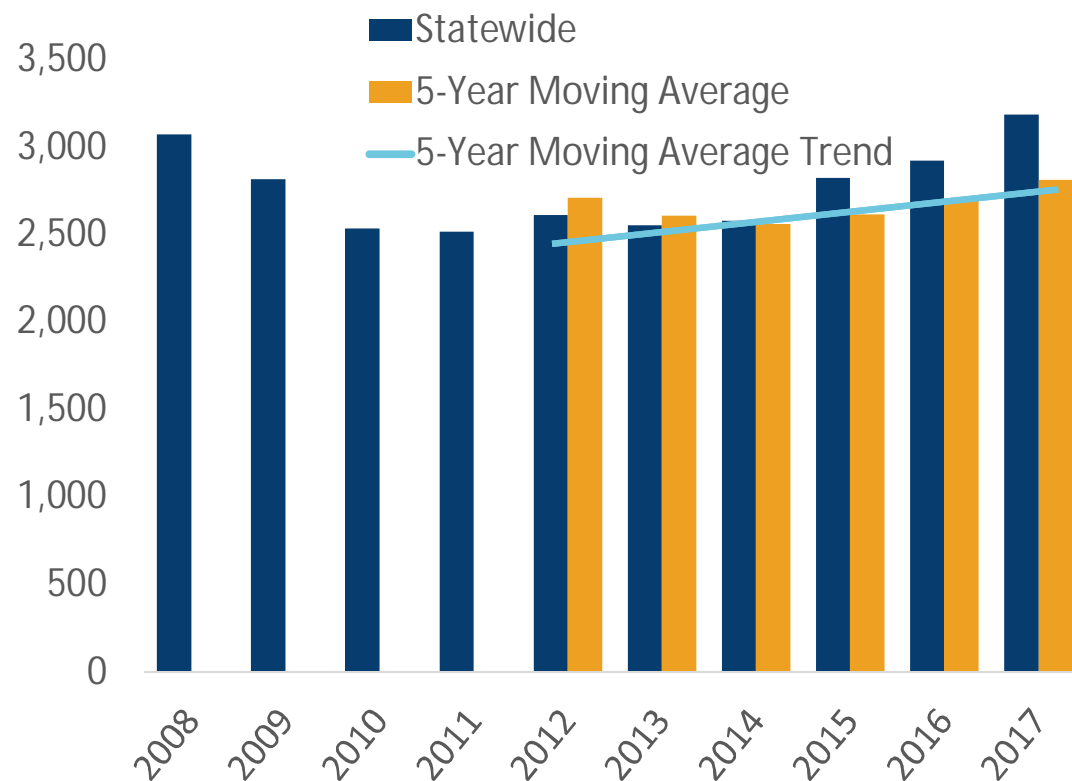
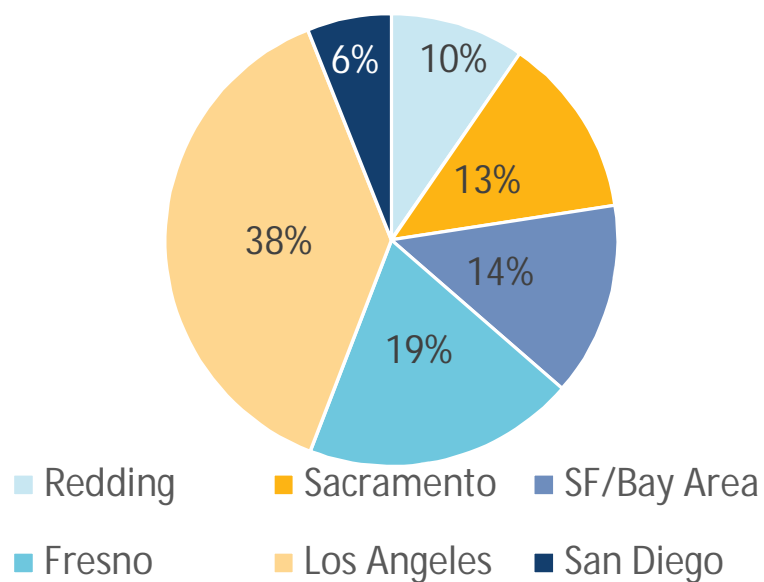
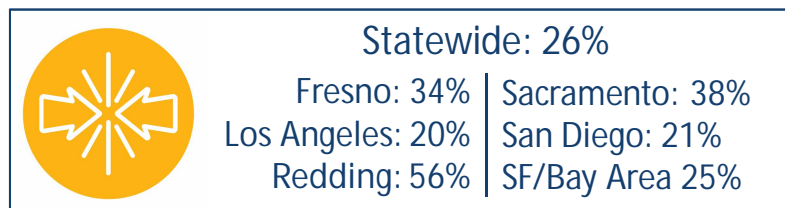
Fresno: 44% | Sacramento: 44%
Los Angeles: 41% | San Diego: 41%
Redding: 46% | SF/Bay Area: 39%



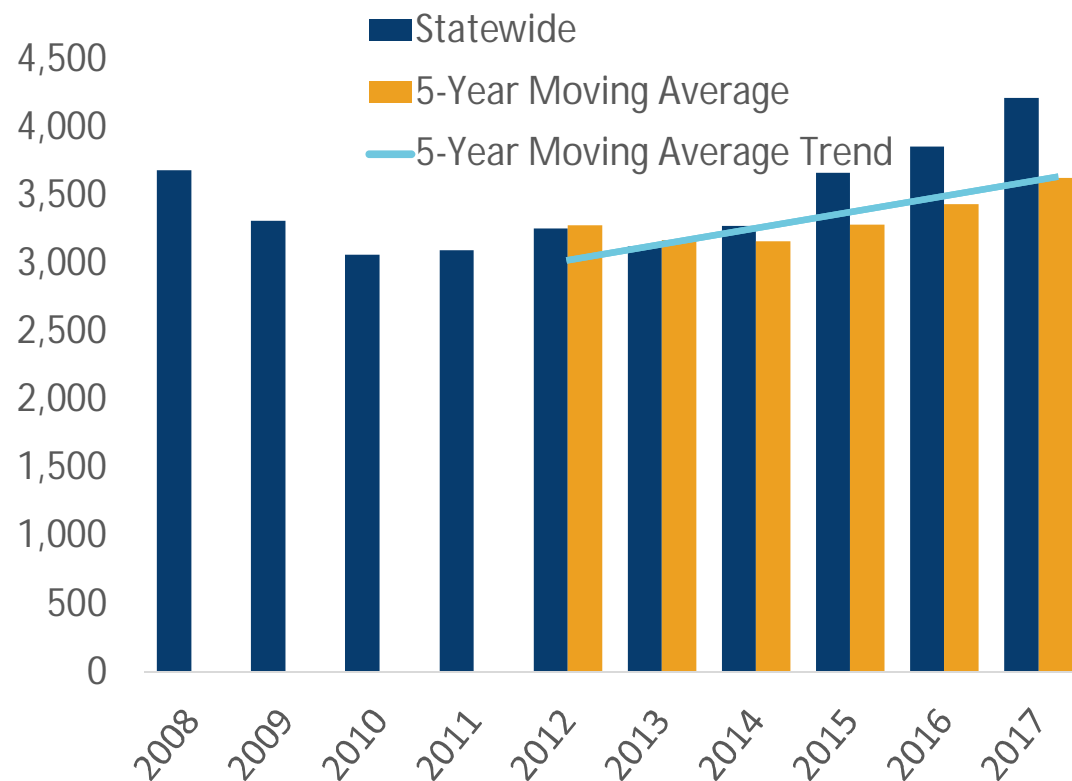
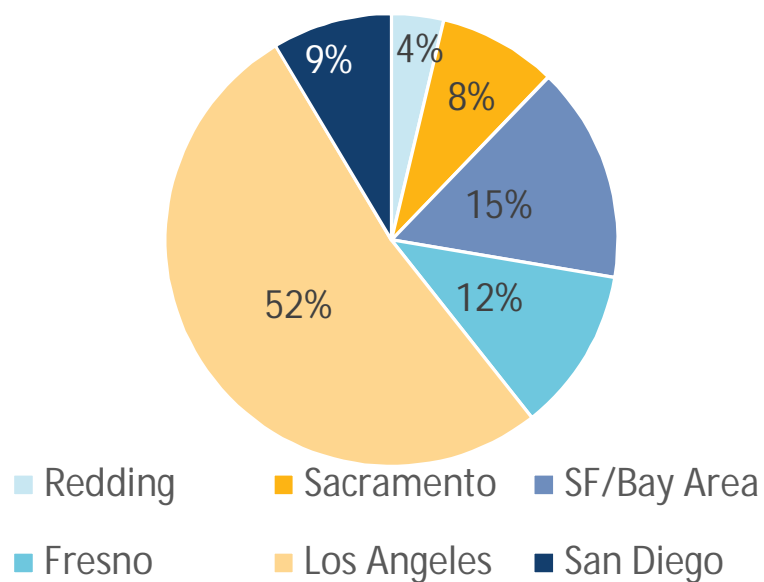
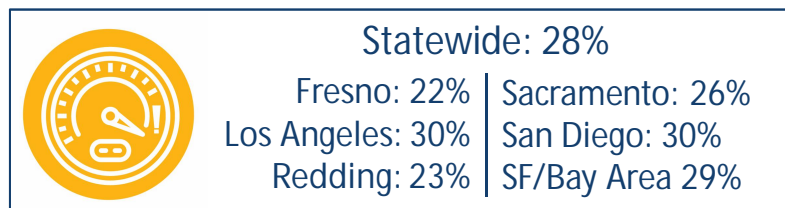
Redding Sacramento SF/Bay Area
Fresno Los Angeles San Diego



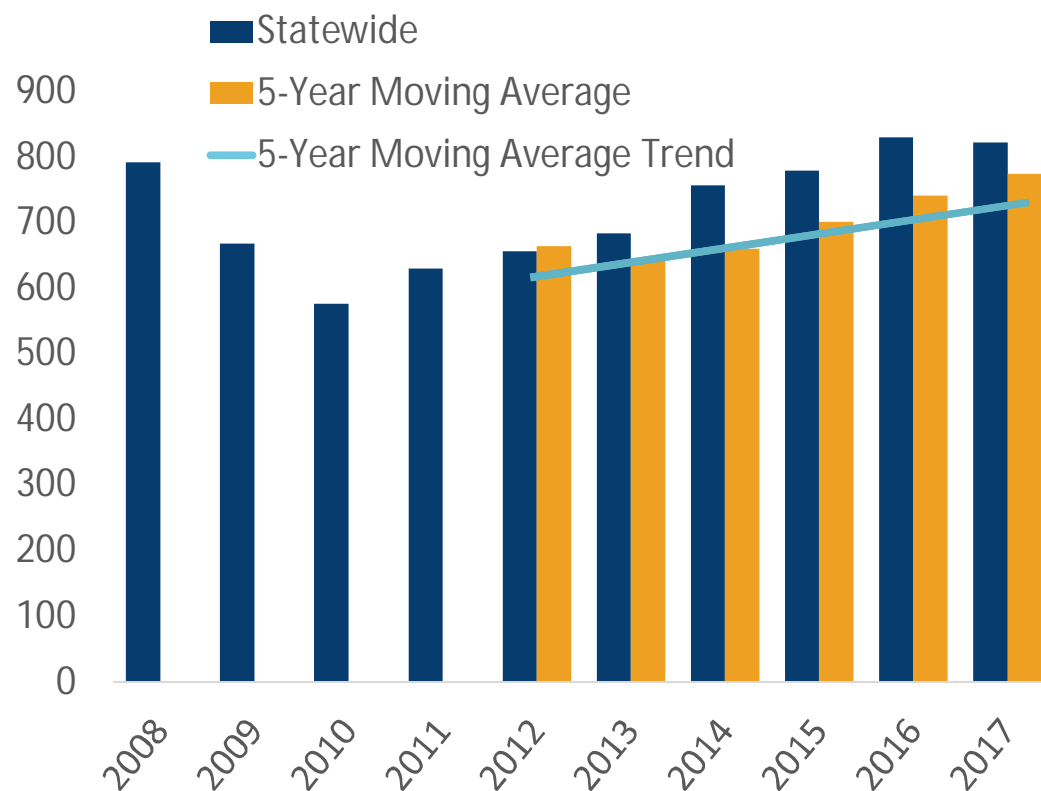
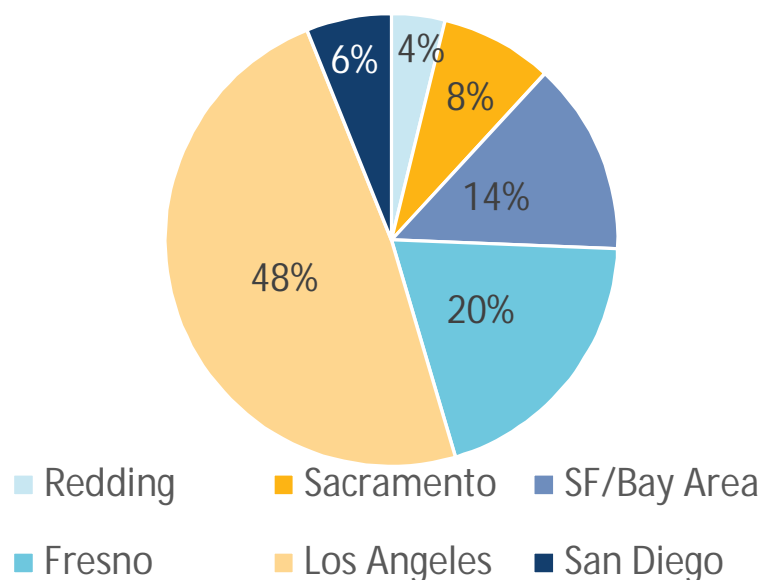
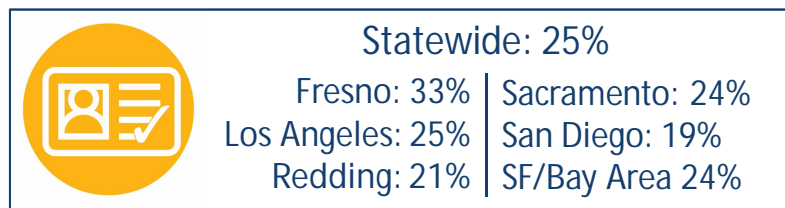
ROADWAY DEPARTURES



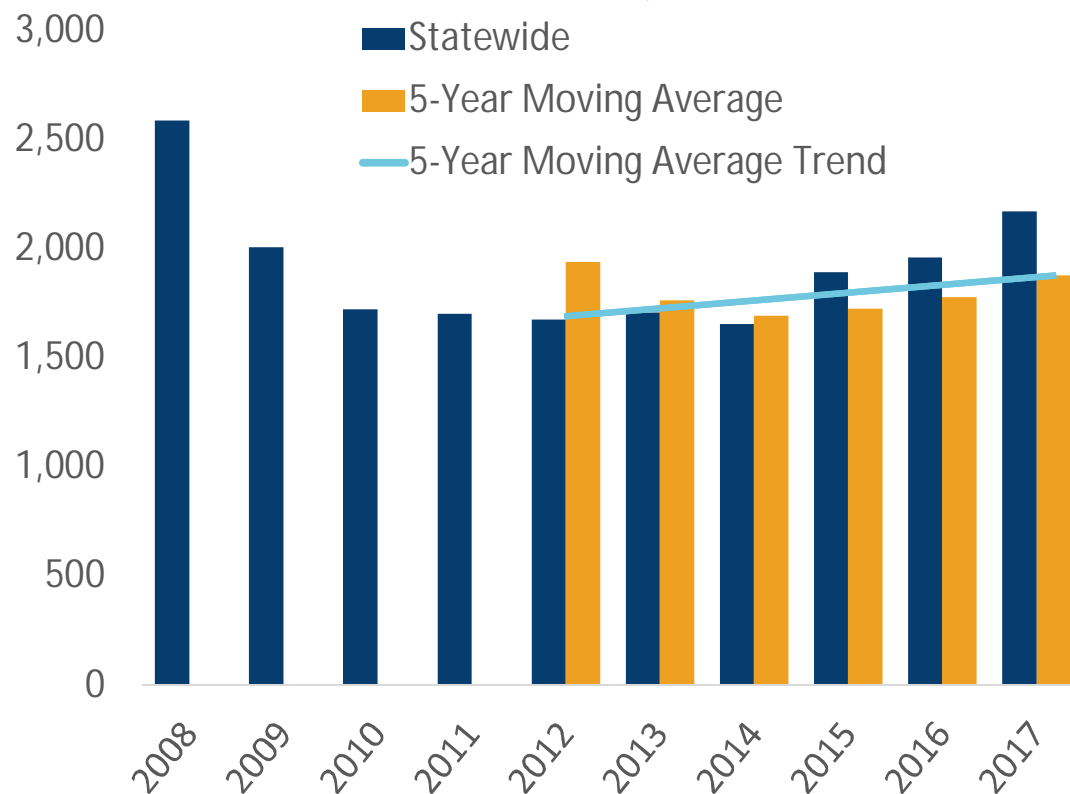
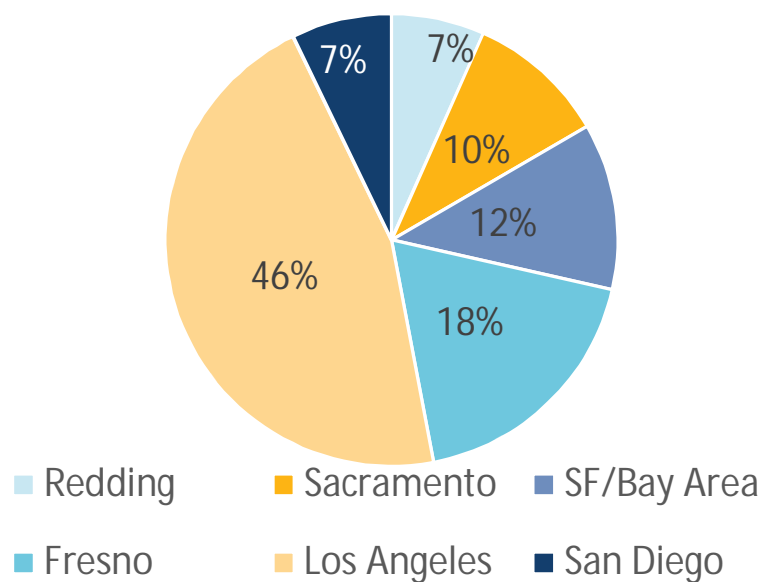
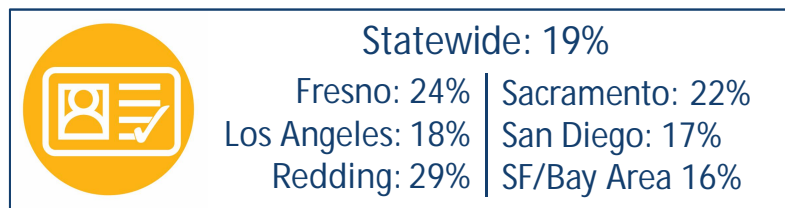
SPEEDING & AGGRESSIVE DRIVING



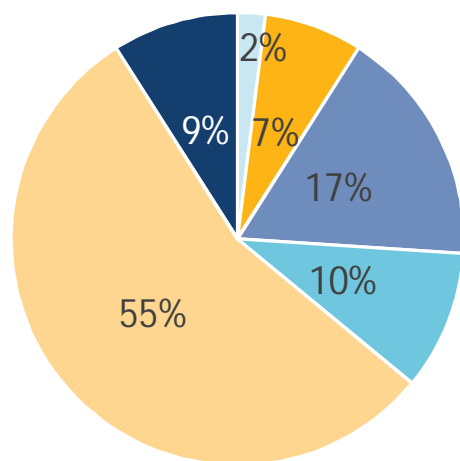
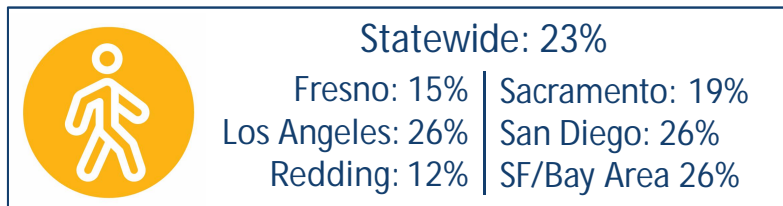
DRIVER LICENSING & COMPETENCY



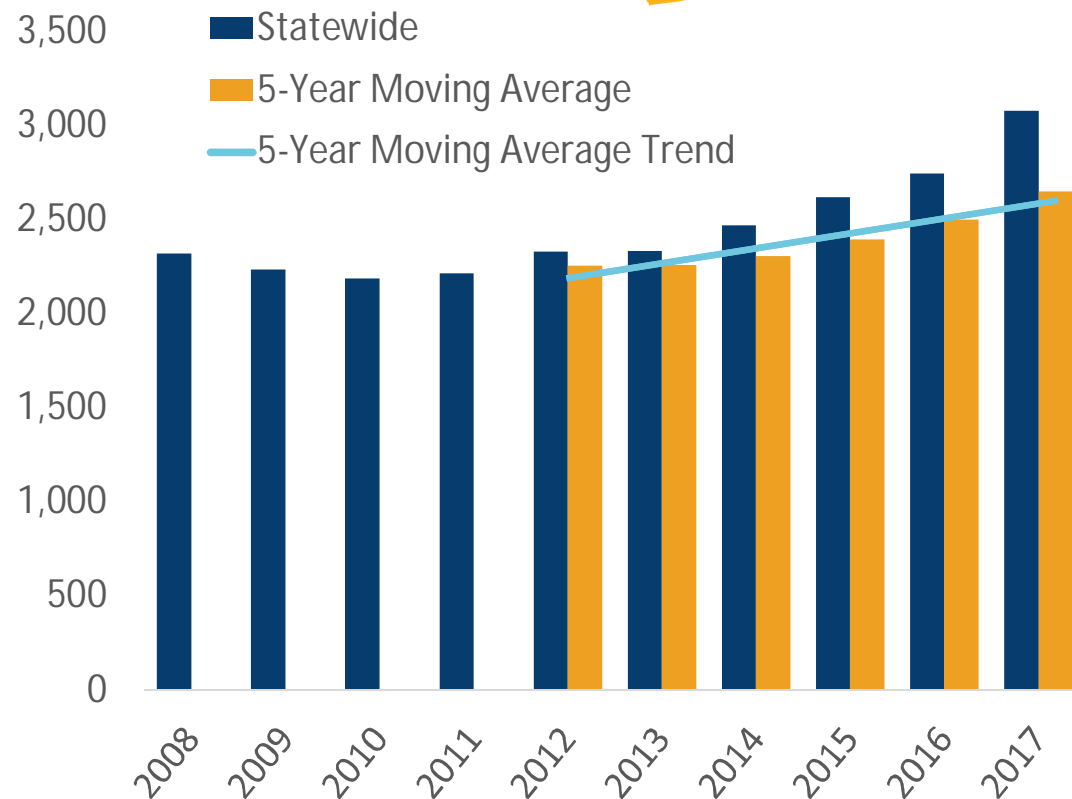
OCCUPANT PROTECTION



PEDESTRIANS



■ Redding
 ■ Sacramento
 ■ SF/Bay Area
■ Fresno
 ■ Los Angeles
 ■ San Diego

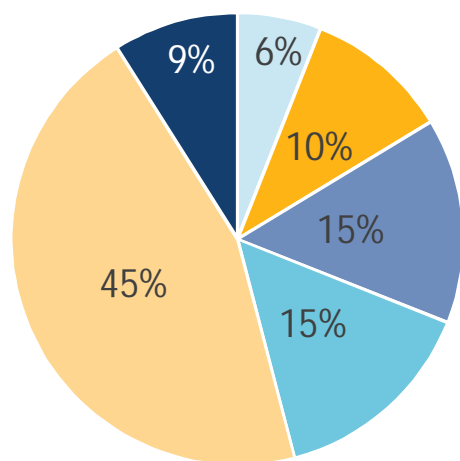


AGING DRIVERS



Statewide: 14%

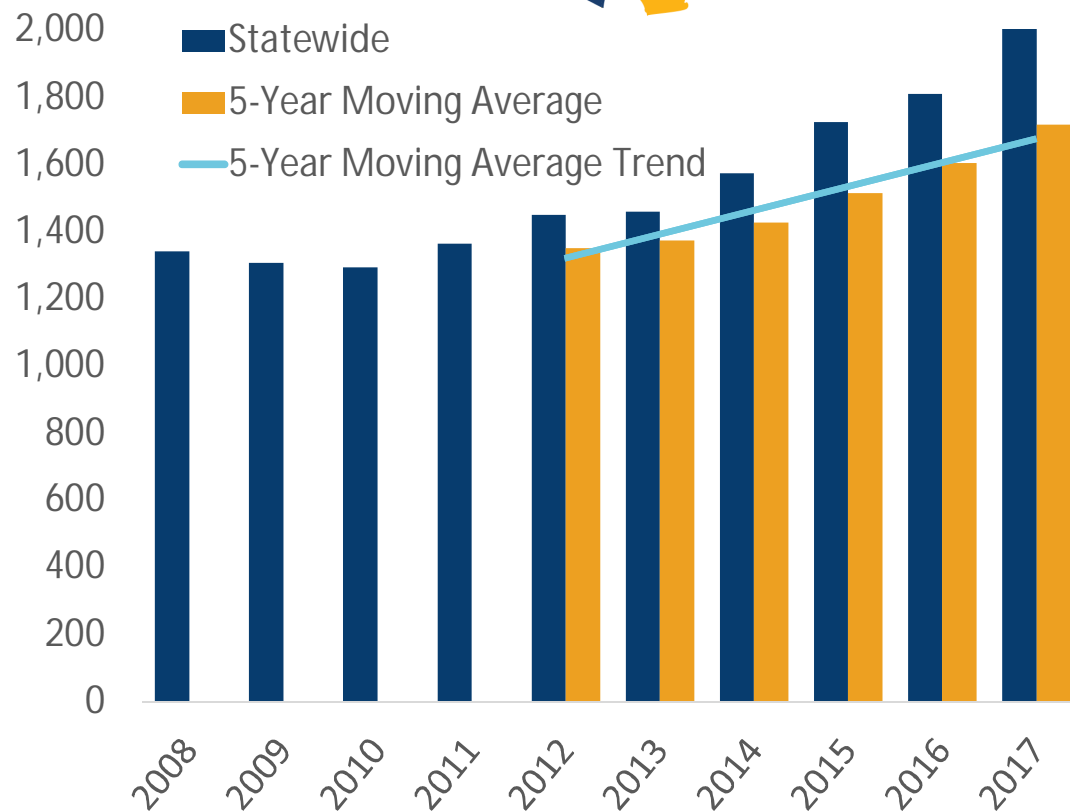
Fresno: 14%	Sacramento: 16%
Los Angeles: 13%	San Diego: 15%
Redding: 19%	SF/Bay Area: 14%



■ Redding
 ■ Sacramento
 ■ SF/Bay Area
■ Fresno
 ■ Los Angeles
 ■ San Diego



CALIFORNIA SAFE ROADS
2020 - 2024 Strategic Highway Safety Plan

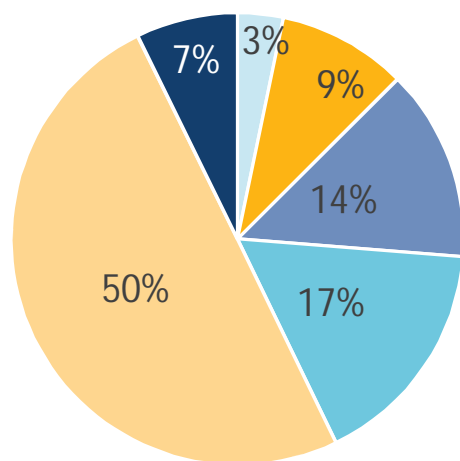


YOUNG DRIVERS



Statewide: 13%

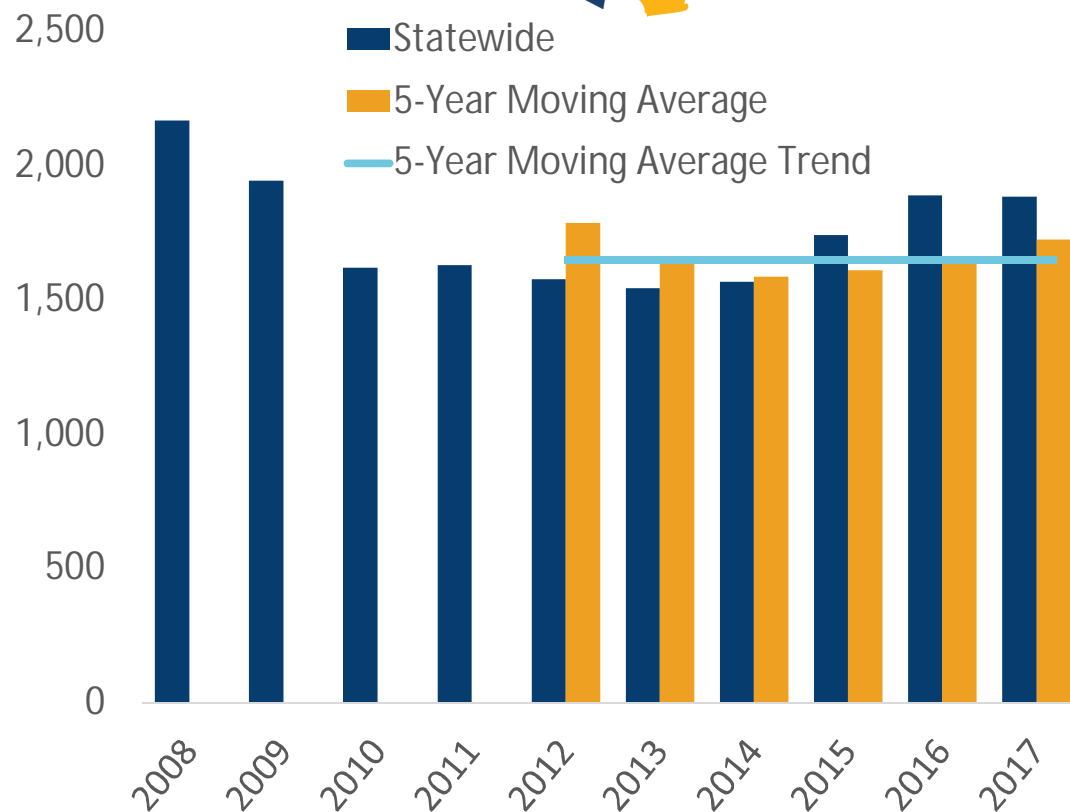
Fresno: 15%	Sacramento: 14%
Los Angeles: 14%	San Diego: 12%
Redding: 10%	SF/Bay Area: 13%



Redding	Sacramento	SF/Bay Area
Fresno	Los Angeles	San Diego



CALIFORNIA SAFE ROADS
2020 - 2024 Strategic Highway Safety Plan



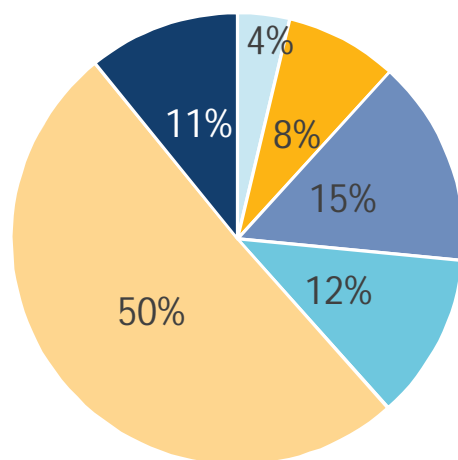
MOTORCYCLES



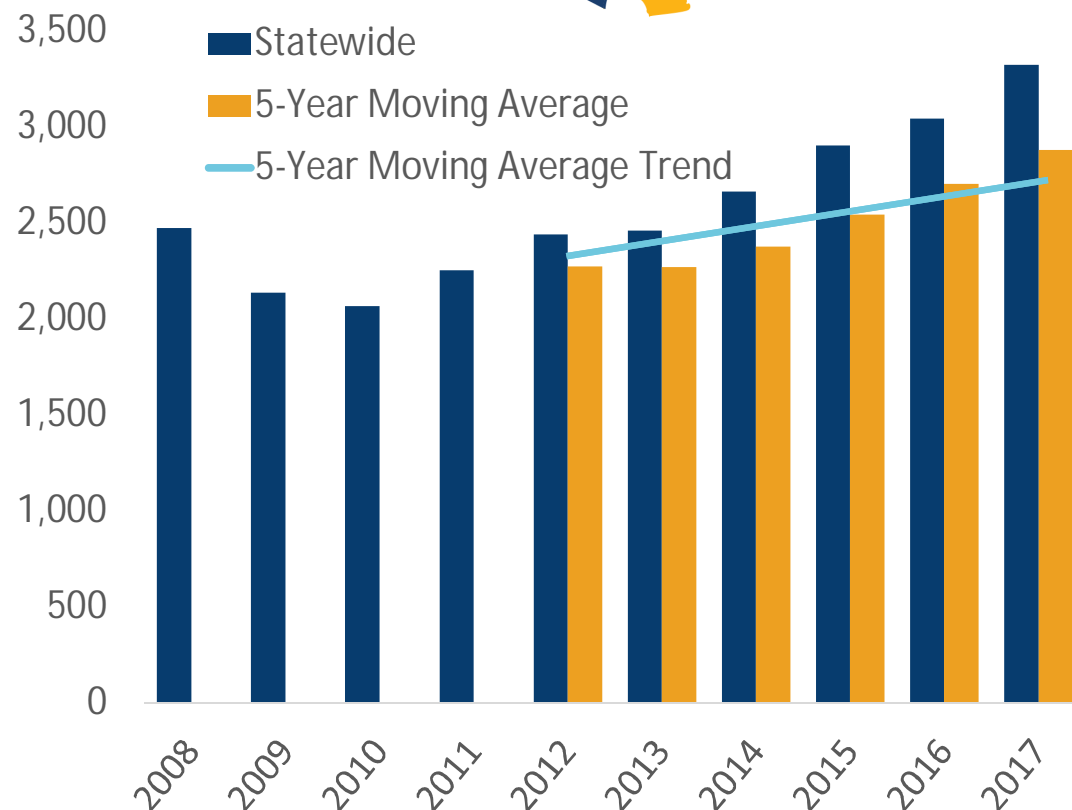
CALIFORNIA SAFE ROADS
2020 - 2024 Strategic Highway Safety Plan



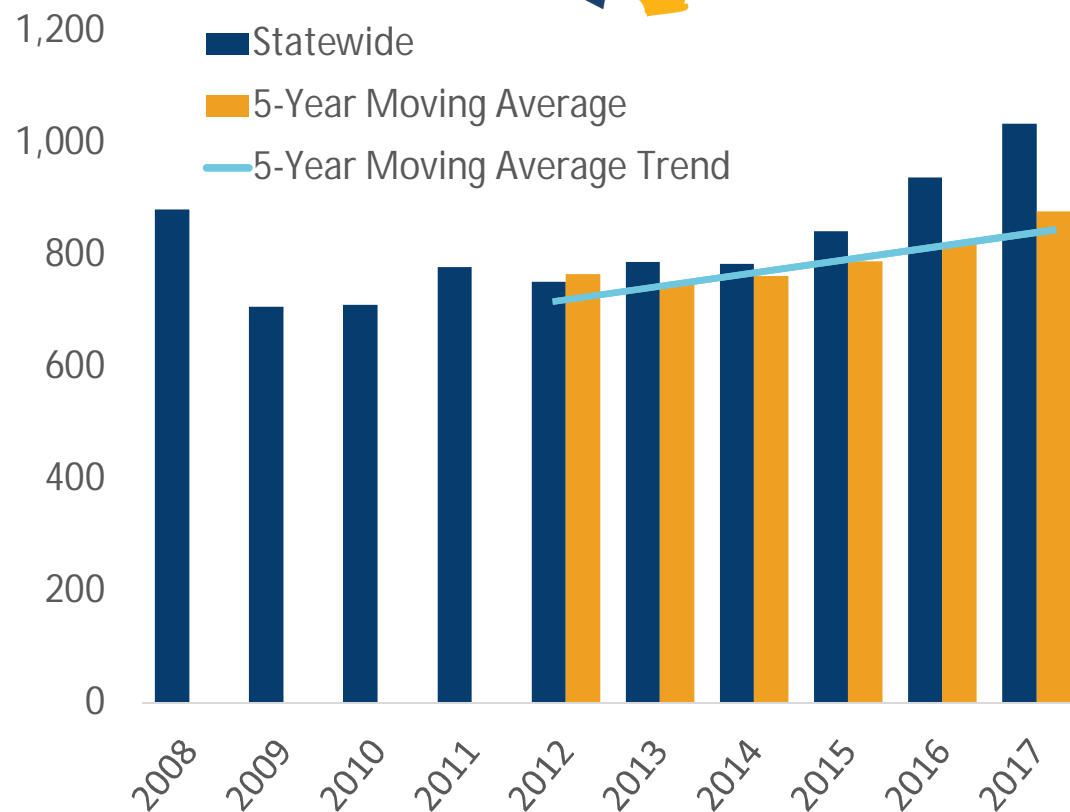
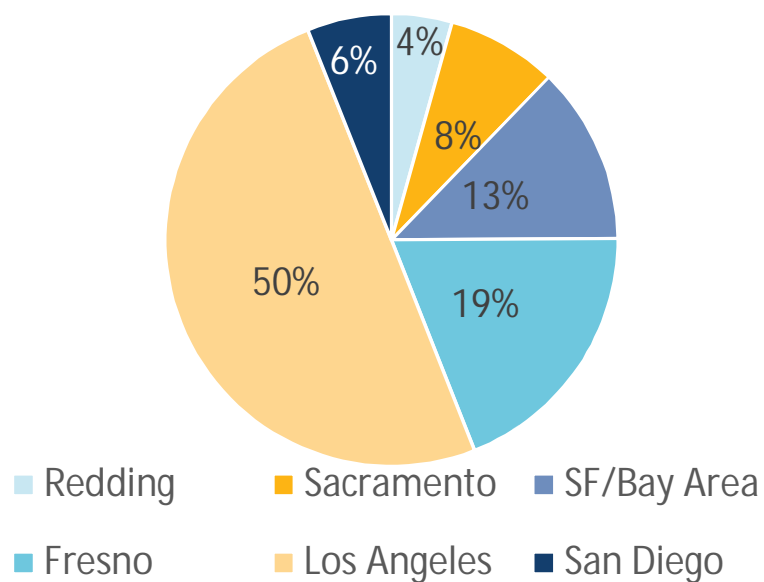
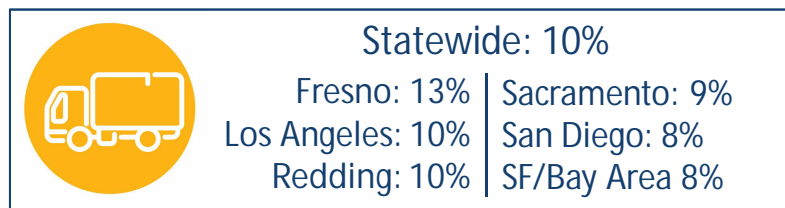
Statewide: 14%
Fresno: 11% | Sacramento: 13%
Los Angeles: 15% | San Diego: 19%
Redding: 12% | SF/Bay Area 14%



Redding Sacramento SF/Bay Area
Fresno Los Angeles San Diego



COMMERCIAL VEHICLES

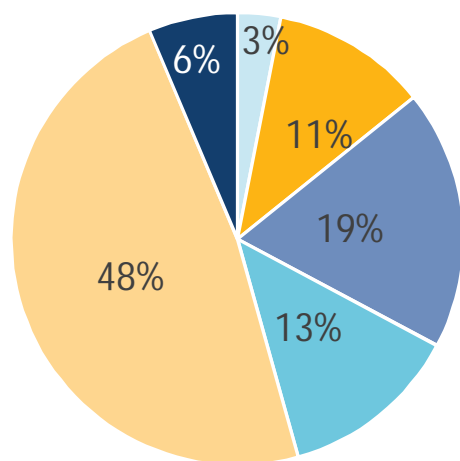


BICYCLING



Statewide: 4%

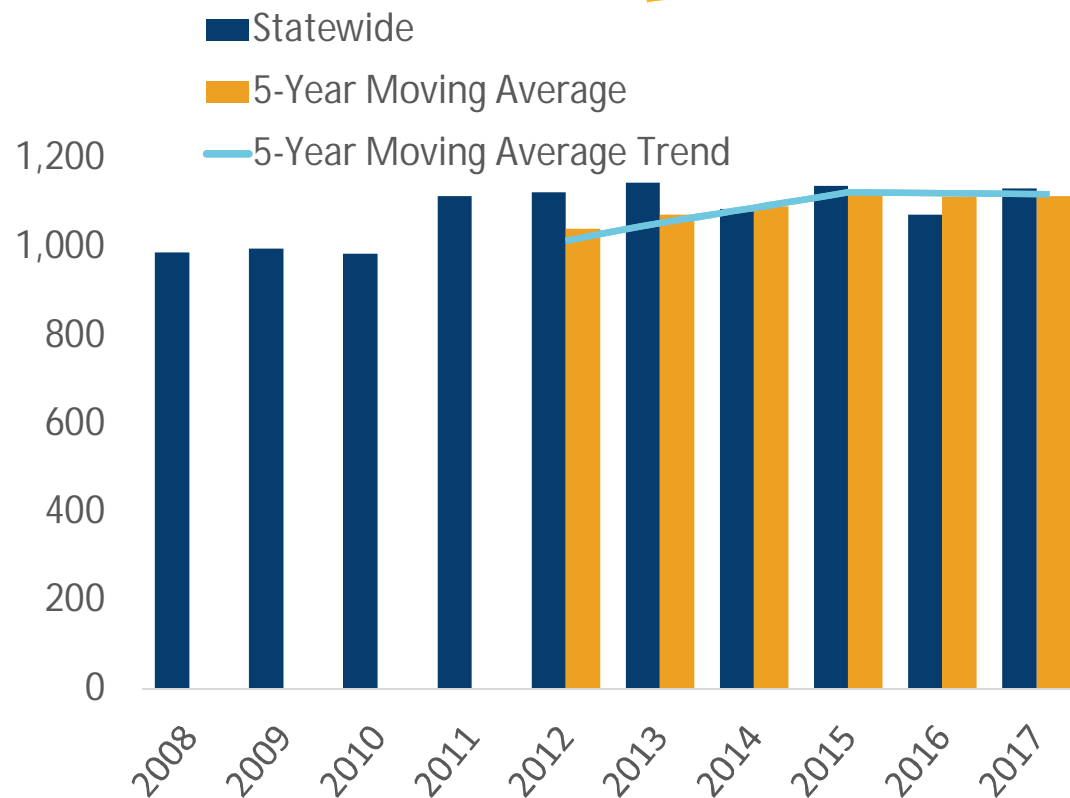
Fresno: 4%	Sacramento: 5%
Los Angeles: 4%	San Diego: 3%
Redding: 3%	SF/Bay Area 6%



Redding	Sacramento	SF/Bay Area
Fresno	Los Angeles	San Diego



CALIFORNIA SAFE ROADS
2020 - 2024 Strategic Highway Safety Plan

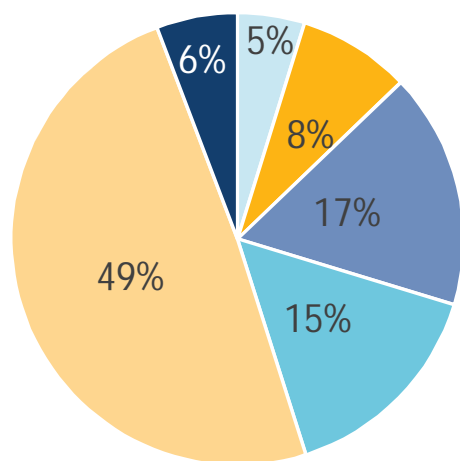


DISTRACTED DRIVING



Statewide: 5%

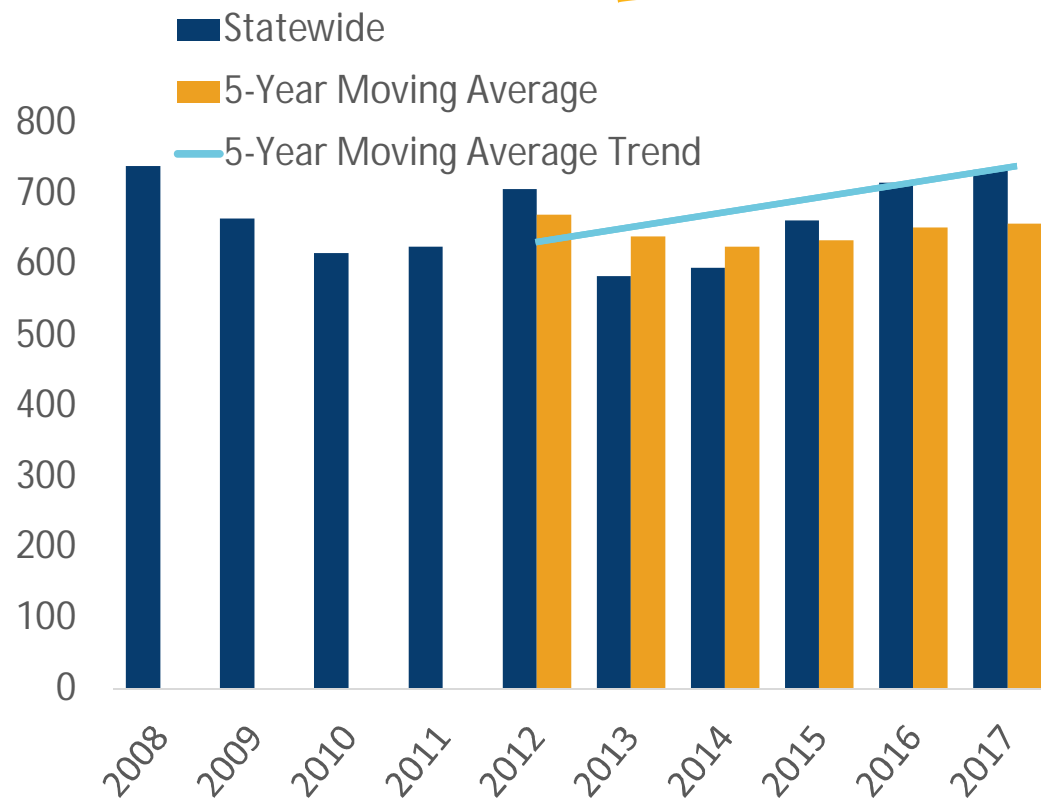
Fresno: 5% | Sacramento: 4%
Los Angeles: 5% | San Diego: 3%
Redding: 5% | SF/Bay Area: 5%



Redding Sacramento SF/Bay Area
Fresno Los Angeles San Diego



CALIFORNIA SAFE ROADS
2020 - 2024 Strategic Highway Safety Plan

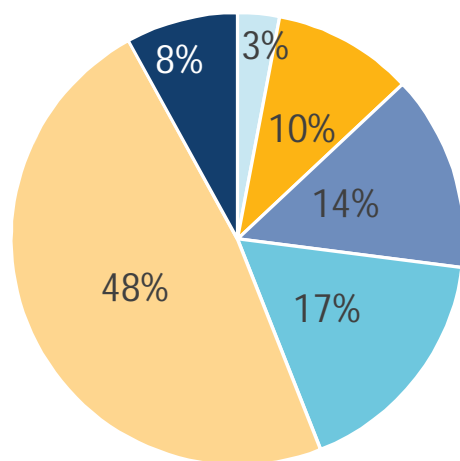


WORK ZONE



Statewide: 2%

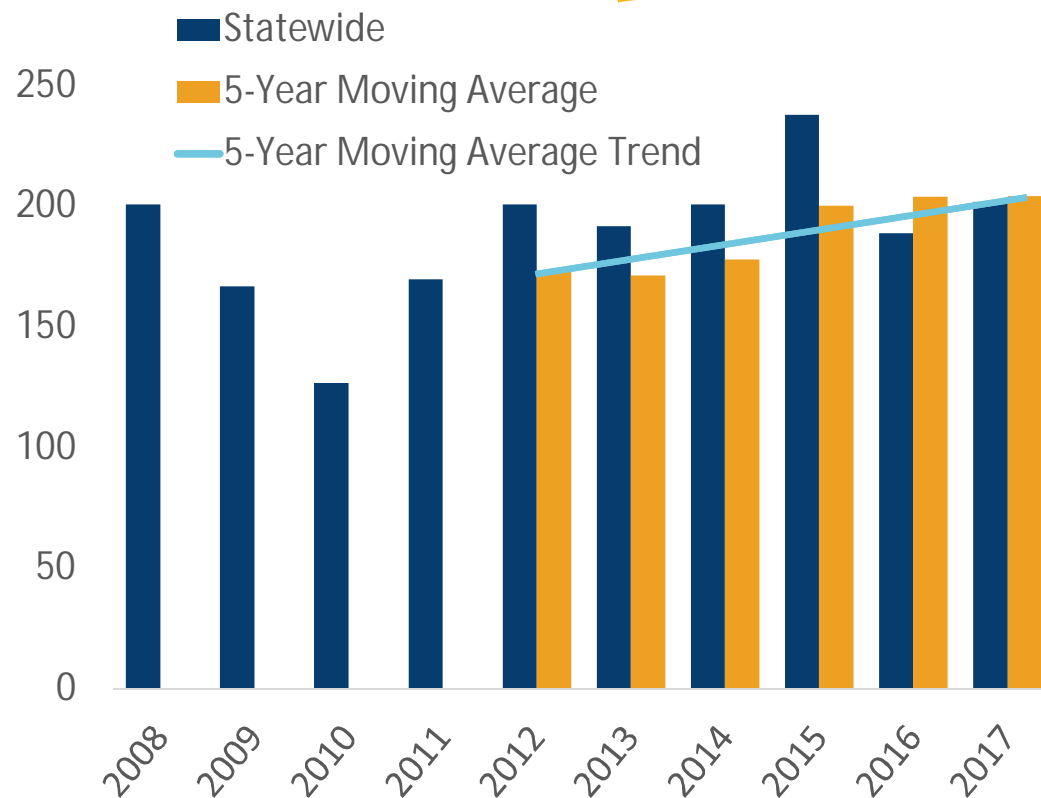
Fresno: 2% | Sacramento: 2%
Los Angeles: 2% | San Diego: 2%
Redding: 1% | SF/Bay Area 2%



Redding Sacramento SF/Bay Area
Fresno Los Angeles San Diego



CALIFORNIA SAFE ROADS
2020 - 2024 Strategic Highway Safety Plan





CALIFORNIA SAFE ROADS

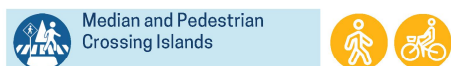
2020 - 2024 Strategic Highway Safety Plan

Safety Strategy Session



EXAMPLE STRATEGIES

Infrastructure-Related Collisions are inclusive of a variety of collision types, including pedestrians, bicyclists, motorcycles, roadway, and intersection collisions.



Median and Pedestrian Crossing Islands



Pedestrian Hybrid Beacon



Leading Pedestrian Intervals



Walkways



Road Diet



Crosswalk Enhancements



Corridor Access Management



Roadside Design Improvement at Curves



Enhanced Delineation and Friction for Horizontal Curves



Longitudinal Rubbe Stripes



Median Barriers



Tapered Edge



Reduce Left-Turn Conflict Intersections



Multiple Low-Cost Measures at Stop-Controlled Intersections



Backplates with Retroreflective Borders



Dedicated Left-turn and Right-turn lanes



Roundabouts



Yellow Change Intervals



Behavior-Related Collisions are inclusive of a variety of collision types, including aggressive driving, alcohol-involved, drug-involved, distracted, young driver, and aging driver collisions.

Education

- Education campaigns about increased enforcement
- Alternative transportation programs
- Increased parental involvement programs
- Mandatory driver education for novice drivers
- Education campaigns for physicians and law enforcement about older driver screening
- Education campaigns targeted to low seat-belt users
- School programs



Enforcement

- High visibility enforcement
- Publicized sobriety check-points
- Saturation patrols
- Enforcement of graduated driver licensing and zero tolerance laws
- Integrated enforcement



Policy

- All offender alcohol ignition interlock law
- DWI courts
- Stronger graduated driver licensing laws
- Screening of older drivers



Training

- Employer-based programs targeting workers that are at higher risk of drowsy-driving
- Drug recognition expert training for law enforcement
- Responsible beverage service training
- Motorcycle rider training



Technology

- Automated enforcement for speed and red light running.



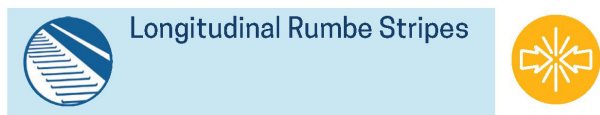
EXAMPLE STRATEGIES



	Median and Pedestrian Crossing Islands		
	Pedestrian Hybrid Beacon		
	Leading Pedestrian Intervals		
	Walkways		
	Road Diet		

	Crosswalk Enhancements		
	Corridor Access Management		
	Roadside Design Improvement at Curves		
	Enhanced Delineation and Friction for Horizontal Curves		

EXAMPLE STRATEGIES



Longitudinal Rumbe Stripes



Median Barriers



Tapered Edge



Reduce Left-Turn Conflict Intersections



Multiple Low-Cost Measures at Stop-Controlled Intersections



Backplates with Retroreflective Borders



Dedicated Left-turn and Right-turn lanes



Roundabouts



Yellow Change Intervals



EXAMPLE STRATEGIES



Policy

- All offender alcohol ignition interlock law
- DWI courts
- Stronger graduated driver licensing laws
- Screening of older drivers



Training

- Employer-based programs targeting workers that are at higher risk of drowsy-driving
- Drug recognition expert training for law enforcement
- Responsible beverage service training
- Motorcycle rider training



Technology

- Automated enforcement for speed and red light running.



EXAMPLE STRATEGIES

Education

- Education campaigns about increased enforcement



- Alternative transportation programs



- Increased parental involvement programs



- Mandatory driver education for novice drivers



- Education campaigns for physicians and law enforcement about older driver screening



- Education campaigns targeted to low seat-belt users



- School programs



CALIFORNIA SAFE ROADS
2020 - 2024 Strategic Highway Safety Plan

Enforcement

- High visibility enforcement



- Publicized sobriety checkpoints



- Saturation patrols



- Enforcement of graduated driver licensing and zero tolerance laws



- Integrated enforcement



SAFETY STRATEGY SESSION



- Open House Format
- Discuss data and strategies with facilitators and attendees at 5 stations
- Fill out comment forms
 - What is the biggest safety issue in your community?
 - What specific data should drive the strategies?
 - What strategies/programs are most effective in your region?
 - What can be done to improve implementation?
 - What other ideas do you have?

SAFETY STRATEGY SESSION



- Handouts
 - Statewide Overview
 - Data specific to each sub category
 - Example strategies

Safety Strategy Session



- Stations

Overview

Collision Overview

Vision / Mission / Objective

Drivers & Passengers

1. Driver licensing
2. Aggressive driving
3. Driving under influence
4. Distracted driving
5. Occupant protection
6. Young drivers (<21)
7. Aging drivers (>65)
8. Commercial vehicle operations

Infrastructure

9. Intersections
10. Lane/Roadway departures
11. Work zones

Vulnerable Users

12. Pedestrians
13. Bicyclists
14. Motorcyclists

Vehicles

15. Equipment

Emergency Response

16. Emergency Response



CALIFORNIA SAFE ROADS

2020 - 2024 Strategic Highway Safety Plan

Report Out / Closing

